TECHNOLOGY DEPT!

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DETROIT

AIR CONDITIONING & REFRIGERATION NEWS

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Army Steps Up Refrigeration Facilities At Training Camps

Fort Custer Modernizes—Except For Iceboxes

By Jim McCallum

FORT CUSTER, Mich.—A year ago only about 2,000 men were stationed at this army encampment, which is located about five miles west of Battle Creek. Today the post is garrisoned with some 14,500 men, and when the present expansion program is completed Fort Custer will have facilities for quartering a total of 20,000 soldiers.

Naturally this mushroom growth has necessitated the addition of considerable refrigeration equipment to care for the meat and perishable produce which now is shipped into the post by the carload.

Prior to the advent of the national defense program and the consequent expansion of the fort and its facilities, very little mechanical refrigeration equipment was in use at Custer. To be sure, there were a couple of walk-in coolers, a few "company size" boxes, and a scattering of standard size household units employing mechanical cooling, but all bulk storage of supplies was handled by commercial storage plants in nearby communities and the remainder of the refrigerators in use were ice-cooled units.

As for the refrigeration equipment which has been and is being added as part of the expansion program, some is mechanical and some ice.

Biggest single item on the list is the two-unit cold storage warehouse being constructed to properly preserve the huge quantities of perishable food which must be shipped into the fort each day to feed its expanding personnel. Each unit of this warehouse is large enough to hold sufficient perishables to supply 12,500 men for four days, or to feed a city the size of Cairo, Ill. or Atchison, Kan. for a similar period of time.

This warehouse, of course, is cooled by mechanical refrigeration equipment. Also mechanically refrigerated are the walk-in coolers located in the 1,000-man mess hall in the reception center for drafted men, and in the 350-bed and 400-bed hospitals.

All other equipment, however, consisting principally of the units installed in the mess halls which serve each block of barracks, is ice refrigerated—despite the fact that mechanically refrigerated equipment was requisitioned for these applications.

In fact, so much ice is being used by the camp in these units that the demand is beginning to heavily tax the overflow of all ice plants in the vicinity. As a result, an ice plant for the camp itself is under serious consideration.

The twin units of the big warehouse will be identical in construction and equipment. Buildings will be of reinforced concrete. Vilter refrigeration equipment is being installed by Heberlee Ice Machine Co. of Detroit.

Each unit will contain four refrigerated rooms—a 72 x 36-foot meat storage room, a 57 x 17½-foot meat issue room, a 65 x 17½-foot produce storage room, and a 17½ x 13¼-foot produce issue room. Ceiling height of all rooms will be 11½

(Concluded on Page 4, Column 1)

Western Firm Handles M&E Line Exclusively

PHILADELPHIA — Refrigerating & Power Specialties Co. with offices in San Francisco, Seattle, Portland, Ore., and Salt Lake City, has been appointed exclusive distributor for Merchant & Evans commercial refrigeration units in the areas covered by their representatives, announces E. Attwood, sales manager, M & E refrigeration department.

Westinghouse Will Split Franchise on 'Packaged' Systems

By Henry Knowlton

DETROIT — Westinghouse "packaged" air conditioning systems, ranging from 1 to 25 tons, will be sold by the company's automatic heating and winter air conditioning dealers, according to a program announced here recently at the first of a series of dealer meetings to be held throughout the country. The "Mobilaire" line of room coolers will continue to be sold through Westinghouse Electric Supply Co., and systems over 25 tons will be handled by the company's structure of "engineering contractors."

As an example of how the new program will operate, both Mechanical Heat & Cold, Inc., and the Kratzer Furnace Co. will handle Westinghouse packaged systems in the Detroit area, and both firms will market room coolers for Westinghouse Electric Supply Co. All systems over 25 tons will be turned over to Mechanical Heat & Cold, Inc.

(Concluded on Page 16, Column 1)

Kitchen Bureau Will Make Color Movie

NEW YORK CITY—A full color talking motion picture, designed to wrap up the whole modern kitchen idea and sell it to the public in half an hour's entertainment, has been produced by Modern Kitchen Bureau, and will be made available to utility companies, distributors, and dealers on either a rental or an outright purchase basis. The picture will be

(Concluded on Page 4, Column 5)

Westinghouse Utility Sales Under Gray

MANSFIELD, Ohio—D. S. Gray has been appointed headquarters supervisor of utility sales of the Westinghouse merchandising division to succeed W. H. Thompson who has been named utility sales manager of the Westinghouse lamp division, with headquarters in Pittsburgh.

Mr. Gray, a native of Columbus, Ohio, joined Westinghouse in 1937.

Tassie Heads G-E Sales On Pacific Coast

SAN FRANCISCO—B. M. Tassie, an executive in the electrical appliance industry for the past decade, has been appointed manager of appliance sales for the newly consolidated Pacific district of the General Electric appliance and merchandise department, with headquarters here, it

(Concluded on Page 16, Column 2)

Washington Institute Plans 7th Annual Get-Together

WASHINGTON, D. C.—Seventh annual "Institute Night" and dinner of the Electric Institute of Washington will be held Feb. 27 in Hotel Washington. Speakers will include Ward B. Stringham, president of the institute; A. G. Neal, president of Potomac Electric Power Co.; and James E. Gheen, New York humorist.

Texas Case May Put Distributor Under Wage Act

Jurisdiction of U. S. Agency Division Is Extended To Intrastate Employes

WASHINGTON, D. C.—Jurisdiction of the Wage and Hour Division over employes of a wholesale distributor who are engaged in intrastate sales and handling of goods was upheld recently in a circuit court decision involving a Dallas, Tex. automobile distributor.

Because of the similarity of distributor set-ups in the automotive and electrical appliance fields, this case is of significance to major appliance wholesalers as well.

The automobile distributor, Packard Dallas Co., contended that the greater part of its new car sales were transacted within the state and that the employes engaged in these intrastate operations were not covered by the Wage and Hour law. The Circuit Court of Appeals granted an injunction restraining the automobile company from further violations of the law and the defendants consented to an entry of judgment. It was the first case involving the intrastate sales of an automobile distributor under the wage and hour law. Authority of the Wage and Hour Division over intrastate operations has yet to be tried in a contested suit.

The Wage and Hour Division is only one of three governmental law enforcement agencies that are cur-

(Concluded on Page 16, Column 3)

Seek a 'Model Law' In Maryland Bill On Time Sales

ANNAPOLIS, Md. — Amendments which would make the proposed Maryland act to regulate instalment sales "the most progressive bill in the nation" were presented to the state senate committee on judicial proceedings at a hearing on the bill recently by four Baltimore retailer associations.

The four organizations which presented the amendments were the Retail Merchants Association, the Retail Furniture Association, the Retail Merchants Credit Association, and the Jewelry Association.

First change suggested was that section 111 of the act, which deals with the form and delivery of sales agreements, be amended to read: "Every instalment sale agreement shall be evidenced by an instrument in writing containing all of the agreements of the parties, and shall be signed by the buyer or his authorized

(Concluded on Page 4, Column 4)

G-E Alters Staff of Commercial Dept.

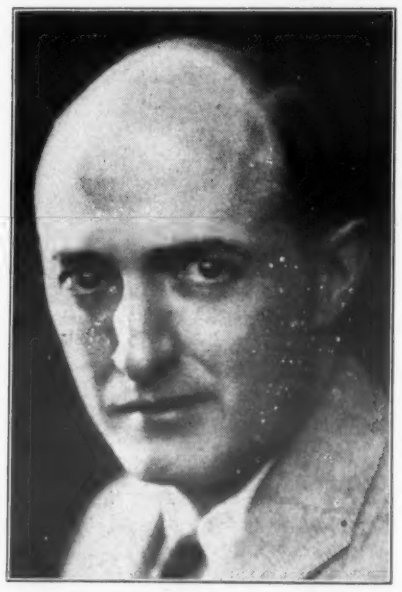
BRIDGEPORT, Conn.—A series of organization changes in the General Electric air conditioning and commercial refrigeration department have been announced by J. P. Rainbault, manager.

All sales activities are now consolidated under the supervision of Elliott Harrington. Assistant sales manager in the new set-up is E. B. McClelland, whose responsibility

(Concluded on Page 16, Column 2)

They Step Into New Industry Posts

D. S. GRAY
Supervisor of utility sales for Westinghouse major appliances.



ELLIOTT HARRINGTON
Director of all sales of G-E's air conditioning department.

B. M. TASSIE
Manager of G-E appliance sales for the Pacific Coast.

B. C. BOWE
Manager of G-E department store appliance sales.

Priorities May Hit Aluminum For Ice Trays

Stettinius Asks 'Makers' To Seek Substitutes Immediately

By George F. Taubeneck

WASHINGTON, D. C.—Household refrigerators soon may be shipped to dealers without a full complement of ice cube trays. That's how bad the aluminum shortage is right now.

Last week E. R. Stettinius, Jr., Director of Priorities of the Office of Production Management, sent a formal notice to all manufacturers of non-defense products now requiring aluminum to "give their immediate attention to the use of substitutes, including plastics."

At the same time, airplane manufacturers were asked to help by saving aluminum scrap for return to the original source of supply. This message read, in part:

"Under the necessities of the present situation, every economy in the use of aluminum becomes necessary and all measures for salvaging existing supplies become imperative."

Thus the situation predicted in the AIR CONDITIONING & REFRIGERATION NEWS editorial of Jan. 1 has now become a hard truth.

Testifying before the Temporary National Economic Committee in

(Concluded on Page 16, Column 1)

Wisconsin Dealers Fight Licensing Bill

MADISON, Wis.—Vigorous opposition among retail appliance dealers to the proposed statute which would require licensing of all stores making sales of any kind of merchandise on credit is being marshalled by the Wisconsin Radio, Refrigeration & Appliance Association.

The proposed statute, introduced by Assemblyman Charles F. Westfahl of Milwaukee would require credit stores to obtain a $500 license annually, beginning July 1 of this year. The definition of credit stores is such as to include almost every merchant who sells on the instalment plan.

According to the bill, "The term 'credit stores' shall mean any retail merchant engaged in the selling of wearing apparel, household necessities, household furnishings, radios, phonographs, jewelry, and watches."

(Concluded on Page 16, Column 2)

Water Heater Display Contest Victors Named

NEW YORK CITY—C. M. Griffin of Ohio Edison Co., Youngstown, Ohio, was awarded first prize in the fall 1940 electric water heater window display contest sponsored by Modern Kitchen Bureau. Second prize went to C. P. Tombras of Knoxville (Tenn.) Electric Power & Water Board.

Other award winners were: J. W. Bremmer, Northwestern Electric Co., Portland, Ore.; J. C. Allen, New Jersey Power & Light Co., Dover, N. J.; Earl Skidmore, Idaho Power Co., Twin Falls, Idaho; C. B. Wall, East Tennessee Light & Power Co., Elizabethton, Tenn.; W. J. Bray, Jennings Furniture Co., Portland, Ore.; John Harvey, Boston Edison Co., Boston; R. E. Anderson, Minnesota Power & Light Co., Duluth; R. C. Knapp, Ohio Power Co., Steubenville, Ohio; S. R. Wilson, Florida Power & Light Co., Miami, Fla.; C. F. Warmoll, Public Service Co. of Colorado, Denver.

Mann Tells Dept. Stores:

Appliance Sales Will Rise If Specialty Men Get 'Free Rein'

NEW YORK CITY—That specialty selling is a "spiritual crusade" and that department stores, if they wish to increase their sales of major appliances, should not keep specialty salesmen tied down with "store policy" were major points in a talk made at N.R.D.G.A.'s recent convention by H. U. Mann, wholesale sales manager of Electric Vacuum Cleaner Co.

"The day of 'Caveat emptor,' let the buyer beware, has gone," Mr. Mann told the appliance session. "Selling has come of age and more and more the public considers the sales person as a purchasing consultant. But the selling of major labor-saving devices requires the services of a purchasing consultant far more expert and competent than may be required for the sale of ordinary commodities."

MAY HURT CUSTOMERS

If a department store's policy is to sell the lowest priced merchandise and not permit the specialty salesman to trade up the customer, that store may be causing its appliance salesman to do a disservice to the customer by allowing her to buy an electrical appliance totally inadequate for her needs, averred Mr. Mann.

The ordinary salesman, approaching a prospect who wished to trade in a 10-year-old refrigerator, would probably direct her to a $99.50 model or one for $114.50, but, suggested Mr. Mann, here's the specialty salesman's proper approach.

"'My, my, Mrs. Smith, you were a pioneer indeed! I suppose even at that time you recognized what a tremendous influence an electric refrigerator could be in the conservation of health and energy. Just think, today we don't know what causes poliomyelitis (infantile paralysis) or even the common cold. We only know that nearly all contagious germs enter the system through the nose and throat—bringing with them most of our diseases, unhappiness, and sorrow.

"'All through these years your refrigerator has been protecting you and your family for the $210 you paid for it. But perhaps not adequately now, isn't that true? Perhaps you've been putting a little too much food in it. After all, a refrigerator isn't just a machine to make frozen desserts. It's a device that protects the health of the whole family, saying day and night—"Disease, stay away! I'm watching over these people."

"'Actually it was a grand bargain for what it accomplished for you, wasn't it?—Now let me show you what $210 will buy today.' Then sell her on the basis of what it will do for her family. That is specialty selling.

"Too many salesmen who have not actually had experience in selling direct to women," pointed out Mr. Mann, "do not understand that no woman likes to admit she is buying anything for herself. Her role, cast by nature, is one of sacrifice. All her life she must be doing things for others.

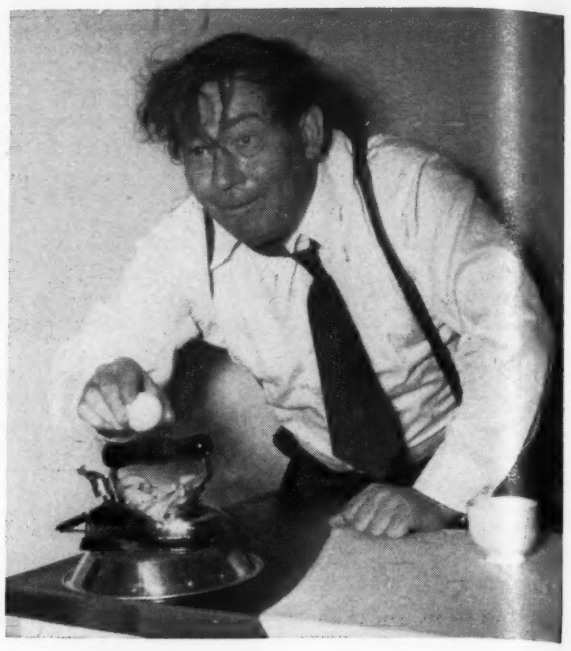
"If you want her to buy a good range, let us say, because you know she would love it, because of the tremendous pride she would have in showing it to the neighbors, sell her that range on the basis of the service which it will help her to provide for her family. Then she will figure out the pride of possession angle for herself."

ROLE OF WOMEN

The average woman, according to Mr. Mann, feels that her job is to render every possible service to her family until the last drop of breath leaves her body. And it is well that this is so. For the nearest approach to divinity on earth is a mother; and the practice of reasonable self-sacrifice and denial is indispensible to family welfare. Women cherish this role and do not like to be toppled from their pedestals, Mr. Mann contended.

In summing up, Mr. Mann advised department stores to permit their specialty salesmen to make demonstrations and to close sales in the home "so those sales will stick and cut down your returns, so that the customer will understand the use, the need, and the benefit told to her over and over again, and so that salesmen can get leads through which they can get other sales."

Sam's Selling Slants



V. E. ("Sam") Vining, merchandising manager for Proctor Electric Co., is the industry's most colorful salesman. This is the twenty-second of a series of Sam's famous "Selling Slants" messages to salesmen. An earlier series was published in the News in 1937.

EXAGGERATION

Listen. Don't exaggerate. Be temperate in all things.

You can't out-claim your competitor. He is just as good a claimer as you are.

I know you have been taught that the particular gadget you are selling is the greatest of its kind in all the world; and I know you, and the man who taught you the story, and the man who makes it, are sincere.

But, down the street you have a competitor who believes the same thing about his Duhinkus.

And he, too, is sincere, and he is no dumbbell; he doesn't beat his wife or stick pins in little children.

And he, too, has a bunch of satisfied customers.

Exaggeration won't down him; senseless ridicule won't affect him; belittling his appliance will send prospects to see it; over-statement of your claims merely gives him a chance to make you look silly.

There is just one way to lick the tar out of him.

Tell the truth to your prospect. Admit your competitor's virtues gracefully when the question is brought up, and then go on hammering your own story—truthfully and sincerely.

And you won't have to wait until you get to Heaven for your reward.

After your competitor has lost a few sales through exaggeration and over-claiming, he too, may see the light, then—

Both of you will do more business.

Birmingham Credit Managers 'Shoot the Works' On Appliances, But Repossessions Are Low

BIRMINGHAM, Ala.—With business prospects rosy for at least the next couple of years, due to the national defense program, credit terms on major appliances are being offered to prospects here on an "as you like it" basis, a recent survey indicates. Customers unable to arrange desired terms in one store can almost certainly find them in another.

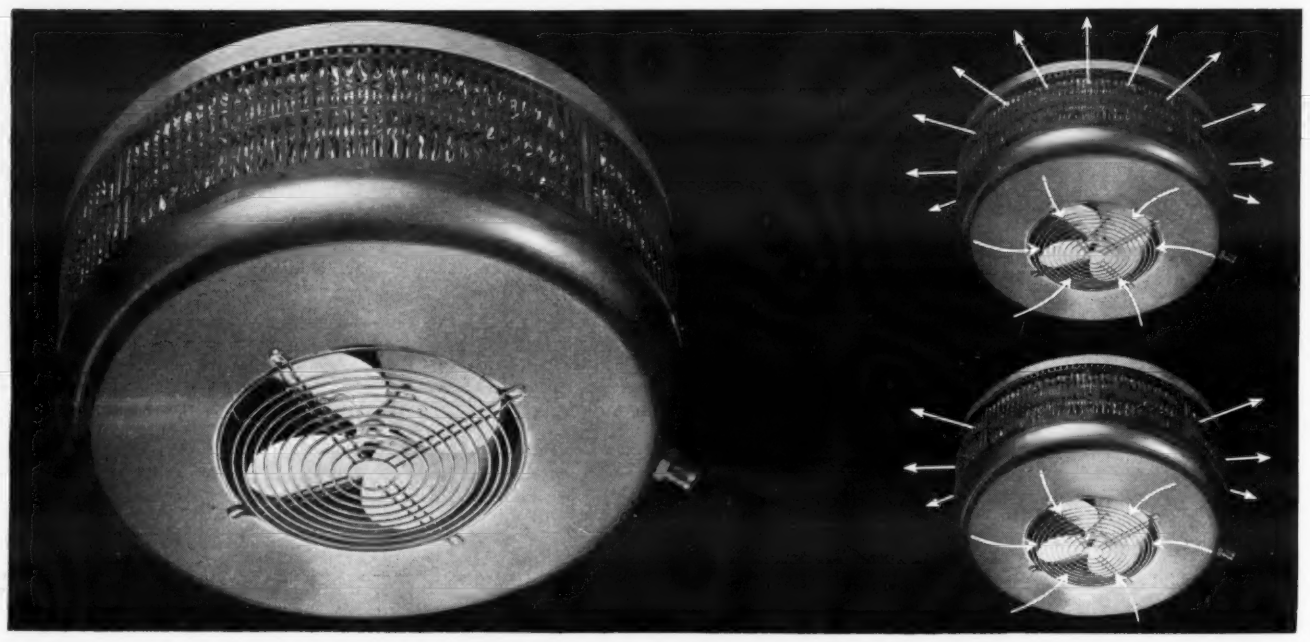
Apparently credit managers feel that with the bulk of national defense spending just beginning to assert itself they can afford to "shoot the works" on time-payment business to a greater extent than in the past, and that they can begin to tighten up when warning signs appear.

Despite this credit leniency, repossessions are extremely low, it is reported. One company which sold more than $100,000 worth of appliances on easy terms, some of it with "nothing down," has experienced no trouble with repossessions. Interesting feature of this firm's experience is that washers rarely come back. Repossessed refrigerators can usually be resold on at least a "break-even" basis, and sometimes at a profit.

Least repossession trouble has been experienced with electric ranges, the firm reports, since most of these sales apparently are made to persons in higher income brackets than the other large appliances.

125 Appliances Sold After Model Kitchen Is Installed

PINE BLUFF, Ark.—Within four months after Kraft Heating & Ventilating Co. here had installed a General Electric model kitchen in its store, the firm sold 125 major appliance units. Demonstrations such as kitchen parties are held frequently. Usually enough sales are made from the floor on the day of the party to more than cover the cost of this promotion.



YEARS IN ADVANCE...
THIS NEW DOME COOLER!

An ultra-modern forced air unit... beautiful in design... better in over-all performance

This new Peerless Dome Cooler sets the pace in 1941 for beauty, efficient cooling and low cost operation. An entirely pre-engineered low-side, ready to install!

Where high humidity is required . . . where there should be no blast of air on perishable products . . . where all available space is occupied by stored merchandise, the Peerless Dome Cooler is the ideal unit. It delivers more BTU per dollar from a minimum of profit paying space.

Here is a unit *correctly* designed to produce *correct* refrigeration. It hugs the ceiling, with large air-discharge area assuring low air velocity. The air floats out, crawls along the ceiling and finally flows gently down over the stored product.

In construction the Peerless Dome Cooler is one of the sturdiest, most rigidly built you've ever seen. The weight of the casing, motor and coil is suspended from the hangers which attach directly to the ceiling. All parts are amazingly easy of access.

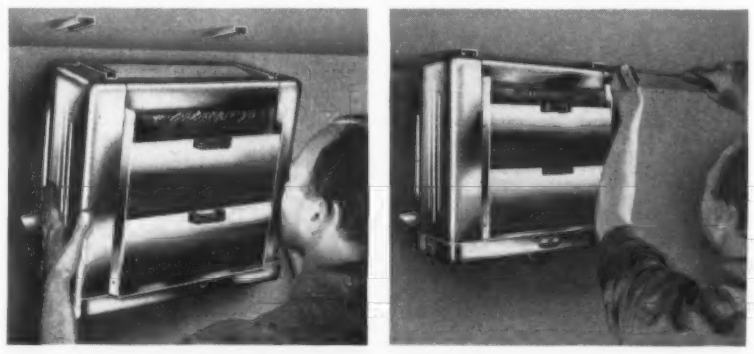
Two-way air flow for special applications

As illustrated above, models are available which discharge air in two directions only—a valuable feature for such applications as reach-in refrigerators.

PEERLESS INTRODUCES THE "ONE-MAN HANGER" FOR UNIT COOLERS

Nothing like it ever seen before—a genuine time and labor saver! Merely attach the hanger tracks to the ceiling and slip the factory-fastened slides of the Unit Cooler into them. Then tighten two screws and the job's done. The neatest and easiest kind of an installation imaginable.

Ask your refrigeration parts jobber



Peerless OF AMERICA INC.

Midwest Factory, General Offices—515 W. 35th Street, Chicago

NEW YORK FACTORY 43-20 34th Street Long Island City
PACIFIC COAST FACTORY 3000 South Main St. Los Angeles, Calif.
SOUTHWEST FACTORY 2218 N. Harwood St. Dallas, Texas
EXPORT DIVISION P. O. Box 636 Detroit, Mich.

SERVEL Silver Fleet

COMMERCIAL REFRIGERATING MACHINES

"Beauty is only skin deep" . . . but under the lustrous silver surface of these sensational new Servel units, you'll find a degree of performance, economy and noiselessness never before available in low-pressure refrigeration. Write today for details. Servel, Inc., Electric Refrigeration and Air Conditioning Div., Evansville, Ind.

SOFTNESS

You get it in WOLVERINE TUBING

—Buy From Your Jobber—

WOLVERINE TUBE CO. DETROIT

Everybody's Talking About Hotpoint for 1941!

By Every Yardstick—A Great Refrigerator Buy

and a Hot Number to Sell in 1941

SWEEPING into 1941 with smarter appearance... greater values... more sales-making features than ever before—Hotpoint Refrigerators offer dealers an even bigger money-making opportunity than in record-breaking 1940!

Outstanding features include New Butter Conditioner...7 Food Storage Zones... Vacuum Sealed Thriftmaster Unit... Stainless Steel Speed Freezer... Pop-Ice Trays... 16-Point Temperature Control... Automatic Interior Floodlighting... All-Steel Construction... All-Porcelain Interior with reservoir bottom in all models. Hard-hitting, aggressive advertising and selling plans will give you powerful support throughout the year. Edison General Electric Appliance Co., Inc., 5632 West Taylor Street, Chicago, Illinois.

See the new models at Hotpoint Distributors everywhere

Hotpoint Refrigerator Prices Start at $112.95

Why didn't someone tell me about Hotpoint's SEVEN FOOD STORAGE ZONES before?
Hotpoint's BUTTER CONDITIONER keeps butter just right for easy spreading.
The EXTRA BIN FOR DRY STORAGE gives plenty of space for canned goods and cereals!
Hotpoint's BIG BOTTLE SPACE solves a real problem for us!
SPEED FREEZER
Hotpoint
FROZEN STORAGE
MEATS
HI-HUMIDITY STORAGE
HI-HUMIDITY STORAGE

HOTPOINT PRESENTS 4 Distinguished Lines of Refrigerators

Giant Fort Custer Storage Plant Can Hold 4-Day Rations For 25,000 Men

(Concluded from Page 1, Column 1)

feet. Temperature in the meat storage room will be held at 10° F. All other rooms will be held at 35° F.

Refrigeration will be supplied by two 50-hp. compressors and one 40-hp. unit, each with its own evaporative condenser. These compressors will have variable capacity reducers with three steps—100%, 75%, and 50%. This equipment will be located in a separate machinery room.

The two 50-hp. compressors will be used to cool the meat room; the other three rooms will be handled by the 40-hp. unit.

Specifications for each of the larger compressors called for 159,150 B.t.u. per hour total heat, compared to 267,348 B.t.u. per hour for the smaller machine. Refrigerant suction temperature required for the 50-hp. job was —10° F.; for the 40-hp. unit it was 15° F. "Freon" condensing temperature specified for the 50-hp. compressor was 100° F.; for the 40-hp. compressor it was 105° F.

Specifications for the evaporative condensers at 80° F. wet bulb outside air temperature were 197,358 B.t.u. (including 24% additional capacity for compressor motor heat) and 4,000 c.f.m. for each of the units operating on the meat room system, and 336,712 B.t.u. and 6,000 c.f.m. for all others. Specifications also called for not less than 6-row condensing coils and provision for liquid sub-cooling coils.

Air distribution throughout the storage room is accomplished by means of unit coolers, four of which are in the meat storage room, two in the meat issue room, two in the produce storage room, and one in the vegetable issue room. Capacity of these units in B.t.u. per hour of sensible heat (based on the use of heat exchangers) is 74,600 for each of the units in the meat storage room, 58,837 for each unit in the meat issue room, and the produce storage room, and 22,000 for the unit in the produce issue room.

Minimum temperature of air leaving coils must be 5° F. in the meat storage room and 29° F. in all other rooms. Four automatic defrosters are required on the units in the meat storage room, but none are needed in the other rooms. Two-speed motors are employed on all unit coolers except the one in the produce issue room.

The unit coolers are controlled by solenoid and thermostatic valves. Compressors are operated on back pressure. Two recording thermometers were incorporated in the system, one for the 10° F. room and the other for all of the 35° F. rooms.

Outside temperatures on which the system was designed were 100° dry bulb and 80° F. wet bulb in summer, and 0° F. in winter.

The warehouse is being insulated with Johns-Manville rock wool in thicknesses varying from 4 to 8 inches. The warehouse is scheduled to be completed about March 15.

The two walk-in coolers in the 1,000-man mess hall are connected to a 3-hp. General Electric compressor unit. A 1½-hp. G-E unit handles the two walk-ins in the 350-bed hospital, and a 2-hp. G-E unit handles the two coolers in the 400-bed hospital. A three-tray morgue refrigerator is included in the system at the 400-bed hospital.

Servicing of all this equipment will be handled either by regular army men or by civil service employes attached to the post.

LARKIN

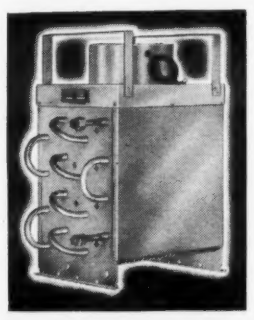
OVER-DRAFT HUMI-TEMP

Sell the forced convection unit that gives you the jump on competition. The satisfied Larkin Over-Draft Humi-Temp users are your assurance of correct designing and conservative rating

See Your Jobber or Write Direct to

LARKIN COILS, INC.

519 Memorial Drive, S.E., Atlanta, Ga.



Originators of The Cross Fin Coil

Maryland Time-Pay Act Changes Asked

(Concluded from Page 1, Column 4)

representative, and by the seller or his authorized representative, on or before the date of delivery of the goods covered by the agreement."

This was pointed out as an improvement on the original wording in that the present clause, "prior to initial payment," might be interpreted to mean the down payment, or may be intended to mean the initial instalment payment.

Second amendment requested covered section 111-B, which now states: "Important notice: Seller is required by law to give the buyer an exact copy of this agreement at the time of signing. Save it to protect your legal rights." According to the retail associations' proposal, this section would be reworded as follows:

"Notice to buyer: You are entitled to a copy of this agreement. Be sure to get it and save it for future reference. Rights of all parties to this agreement are subject to the provisions of sections 111 to 134 of article 83 of the annotated code of Maryland." Feeling of the retailers was that the present wording of the section tends to reflect on all firms who do business on the instalment plan.

It also was requested that the section enumerating the rights of buyers be deleted from the bill because "again by implication the retailer doing an instalment business seems to be indicted of malpractice by the requirement to inform the other party to an instalment sale of his legal rights."

Provision of the act prohibiting a final payment greater than 50% of the average of the other payments also was asked to be removed from the bill, on the ground that an arrangement of this type is preferred by some instalment buyers.

Clause in the act regulating the insurance charges was questioned on the grounds that there is nobody in the state "vested with the power to authorize premium rates, on any type of insurance." A more effective provision, it was felt, would be: "No charge for insurance shall be made by any seller under any retail instalment agreement at a rate in excess of the rate charged for similar insurance covered by those companies whose rates are promulgated by any nationally recognized organization of underwriters."

Elimination of that section of the act dealing with allocation of each payment was asked because "it would be highly impractical for each and every receipt to be broken down according to its proper allocation." Also, it was suggested, the section of the act requiring a statement to be furnished by the seller to the buyer whenever he makes a written request offers the consumer sufficient means of ascertaining whether his payments have been properly allocated.

Real purpose of the section of the act regulating add-on contracts is to protect the buyer against the unscrupulous seller who may, without any allocation requirement, exercise his property rights in all goods being paid for under an instalment agreement, it was declared, but no question concerning such rights will arise unless and until the sellers moves to repossess his merchandise.

Accordingly, it was suggested that the first sentence of section 119 (B) of the act be amended to read: "Payments made on such a continuing agreement to which additional purchases may have been added shall be considered as allocated among each of the separate purchases included, in the same proportion which the original cash price of each bears to the total cash price of all goods to which the seller has retained title, but the seller, before attempting to repossess any goods under any such agreement, shall actually allocate in such manner all such payments made to him by the buyer."

New MKB Movie 'Sells' Electric Kitchen Idea

(Concluded from Page 1, Column 2)

ready for release about March 15, in 16 mm. size.

The new movie, first to be produced by MKB, mentions no individual brands of appliances, and can be fitted into any local product campaign on refrigerators, ranges, or other major kitchen appliances. Portraying the fundamental principles of the modern, planned kitchen, the picture shows how all-electric kitchens can be adapted to all types and sizes of homes, on either a complete or a unit-at-a-time basis. Financing arrangements also are outlined.

Anaconda Copper

Refrigeration Tubes

Dependable!

THE AMERICAN BRASS CO

FRENCH SMALL TUBE BRANCH

General Offices: Waterbury, Conn.

The Machine For Your Next Job...

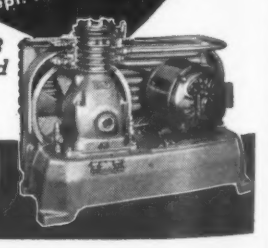
If it's a refrigeration job ...no matter how big or how small...we can supply Lipman equipment to tit the specifications. *Let us work with you.*

GENERAL REFRIGERATION DIVISION

Yates-American Machine Co.

Dept. AC-3, Beloit, Wis.

Model 153 Water-cooled Machine



Lipman GR AIR CONDITIONING

No. 2 OF A SERIES OF ADVERTISEMENTS DESIGNED TO HELP YOU SELL REFRIGERATORS FASTER.

BE AN AUTHORITY ON OPERATING COSTS!

Your sales talk clicks when you can prove your refrigerators cost less to run than old models!

SOONER OR LATER, this question pops up: "How much does it cost to run?" And right here you'll find it pays to know your kilowatts, horsepowers and current consumption.

For many's the sale that has been closed by expert use of this knowledge . . . the instances where the salesman has proved it saves money to buy the new model, instead of letting the prospect walk out "guessing she'd go along with the old one she has for a couple of years more."

Many's the sale that has been closed by expert knowledge of finishes,too. Smart salesmen know that women are intensely interested in how long a finish will keep its beauty . . . how easy it is to clean . . . how it resists chipping, food and grease stains. *That* kind of finish saves housework.

That's the kind of finish DULUX is . . . with *every* quality women want: sparkling whiteness . . . resistance to chipping, cracking, food and grease stains . . . ease of cleaning. Women know DULUX offers extra quality because it's made by Du Pont.

It *pays*, in arousing prospects' interest, to point out the DULUX Seal early in every sales talk . . . to explain the extra value of DULUX, and how much it offers. Try it! E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Wilmington, Delaware.

FREE... SEND FOR THIS BOOK!

▶ Du Pont has prepared a new book to help you in your sales. It's called "How DULUX Has Helped in the Sale of More Than 9,000,000 Refrigerators." It's yours for the asking. Just write to: Du Pont Co., Room 7156, Du Pont Bldg., Wilmington, Delaware.

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DULUX REG. U. S. PAT. OFF. DU PONT REG. U.S. PAT. OFF.

THE MODERN FINISH FOR MODERN LIVING...*It saves work*

SQUARE D IN REFRIGERATION

CLASS 9150 SOLENOID VALVE

A neatly designed, compact unit. Quiet in operation—hermetically tight—moisture-proof—tight closing. Built for long, dependable service. Single or double voltage coils.

DO IT ALL WITH SQUARE D— SWITCH • PROTECT • REGULATE

Jobber Inquiries Invited

SQUARE D COMPANY

REGULATOR DIVISION

DETROIT · · MICHIGAN

Write for Bulletin

WHO'S WHO WHERE

J. H. Ashbaugh Advanced By Westinghouse

JOHN H. ASHBAUGH

* * *

EAST SPRINGFIELD, Mass.—John H. Ashbaugh, formerly engineering manager at the Westinghouse East Springfield works, has been appointed assistant manager of manufacturing and engineering for the merchandising division. He will maintain his headquarters here, but also will be responsible for the work at Mansfield, Ohio.

Mr. Ashbaugh is widely known in the field of air conditioning and refrigeration engineering. He did considerable work on automatic regulators for speed and voltage control in power houses and industrial applications. He joined the Westinghouse merchandising division in 1931, and a year later was named manager of engineering at East Springfield.

Rasmussen To Manage Crosley Radio Division

J. H. RASMUSSEN

CINCINNATI—J. H. Rasmussen has been appointed manager of the radio division of Crosley Corp. For the past five years, Mr. Rasmussen has been assistant sales manager of Zenith Radio Corp.

Previously, he had served for four years as advertising manager and assistant sales manager of Grigsby-Grunow Corp., later the General Household Utilities Co. of Chicago. He also spent eight years with Sterling Radio Co., Kansas City, Mo., as manager of that company's branches at Omaha and Wichita, Kan.

Osborne 'Drafted' By Defense Commission

MANSFIELD, Ohio—L. E. Osborne, manager of manufacturing and engineering for the Westinghouse merchandising division, has been granted a leave of absence to join the staff of the Defense Commission in Washington, D. C.

Mr. Osborne, a veteran of more than 30 years' experience with Westinghouse, will be assigned to the staff of the Defense Commission's Office of Production Management. His acceptance of the post is in response to a request by William S. Knudsen, director general of the Office of Production Management, to Westinghouse for a man with a wide manufacturing experience.

A native of Verona, Pa., Mr. Osborne joined Westinghouse in 1910, as a tool clerk. He advanced to the position of tool room superintendent, and in 1931 became works manager of the company's plant in Newark, N. J. He was appointed works manager of the merchandising division plant in East Springfield, Mass., in 1934, and on May 1, 1939, was named manager of manufacturing and engineering for the entire division.

Crescent Supply Named G-E Outlet In Iowa

SIOUX CITY, Iowa — Crescent Electric Supply Co., with offices here and in Sioux Falls, S. D., has been appointed distributor in those cities for General Electric major and small appliances, and radios. These territories were formerly served in respect to major appliance lines by General Electric Supply Corp. from Omaha and St. Paul.

Crescent Electric has also been appointed distributor for G-E automotive products, Deltabeston wires and cables, insulating materials, and wiring materials.

Sanger Heads Nema Appliance Section

CHICAGO—A. C. Sanger of General Electric Co. was elected chairman of the Domestic Appliance Section of National Electrical Manufacturers Association during the organization's recent meeting here. B. C. Neece of Landers, Frary & Clark was named vice chairman of the section, which is a newly created position.

J. F. Manion Joins Carrier Field Staff

CLEVELAND—J. F. Manion, formerly in charge of commercial refrigeration sales for the Lewis G. Spence Co., G-E dealer, has joined the Carrier field organization. From his headquarters in Cleveland, Mr. Manion will work with distributors and dealers through the Carrier branch offices in Syracuse, Cleveland, and Detroit.

Buhl Will Distribute Bendix in Michigan

DETROIT — Distribution of the Bendix home laundry unit in eastern Michigan has been taken over by Buhl Sons Co., hardware and appliance distributor here, and the Detroit factory branch of the Bendix organization, which previously handled sales here, has been discontinued.

A. L. McCarthy, formerly manager of Bendix's Detroit branch, has been transferred to the factory at South Bend, Ind. to work on the company's national sales program.

A. R. Morey, appliance manager for Buhl Sons, now heads Bendix activities here.

G. A. Klopp Represents Koch In Southwestern Area

FORT WORTH, Tex.—George A. Klopp has been appointed southwestern representative of Koch Refrigerators, with headquarters here.

New 1941 Advanced Design

PHILCO REFRIGERATOR

...the Sensation of the Industry!

THE GREATEST REFRIGERATOR EVER BUILT ... PHILCO Advanced Design MODEL MAH-7

● CONVENTION ORDERS DOUBLE LAST YEAR'S!

Yes, at the recent National Convention in Chicago, orders for the new 1941 Philco Refrigerator *more than doubled those of last year's convention!* This amazing new Philco, with its new beauty, new, exclusive services, new dependability and economy will sell itself on sight to your customers, too!

● OUTSTANDING FEATURE AT FURNITURE MART!

The display of new Philco Refrigerators at the Furniture Mart in Chicago is the high-spot of the show! The eye-catching beauty and easily demonstrated advantages of the new Philco make it a sensational standout wherever exhibited!

● SMASH HIT AT MEETINGS!

During the past few weeks dealers all over the country have met and marvelled at this new creation of Philco engineering genius. The amazing number of orders placed by dealers at these meetings is real proof of their enthusiasm over the 1941 Advanced Design Philco Refrigerator!

● MOST SALEABLE FEATURES EVER OFFERED TRADE!

Only Philco offers you the Conservador . . . plus separate compartments for Dry Cold, Moist Cold and Frozen Foods . . . the amazing new Philco *Super* Power System that features SUPER-FINISH . . . the numerous other services that bring new modern benefits to the housewife . . . all saleable features she can instantly see and appreciate!

SEE YOUR PHILCO DISTRIBUTOR

Don't wait! See your Philco Distributor or call him now. Get set up for the biggest refrigerator year you've ever had . . . with PHILCO!

PHILCO ALL YEAR 'ROUND

. . . The Most Valuable Franchise in the Appliance Field!

FROM 1/4 to 25 TONS OF REFRIGERATION

Brunner Refrigerating and Air Conditioning equipment comprises air and water cooled condensing units for practically all types of commercial applications up to and including 25 tons of refrigeration. Catalog promptly on request. Brunner Manufacturing Co., Utica, N. Y., U. S. A.

BRUNNER

FOR YEARS THE SYMBOL OF QUALITY

The Profit Motive:

Super Markets Report Gains From Use of Air Conditioning

KANSAS CITY, Mo.—Importance of air conditioning to the modern super market was brought out by Carl F. Deremo and Robert E. Poysell of Cincinnati, in a report made before the annual convention of the Super Market Institute here recently. While the success of the super market formerly depended on low rent, cheap buildings, and no improvements, the opposite has become true during recent years, the speakers noted.

Reporting on "Air Conditioning as It Applies to Super Stores From a Practical Viewpoint," Messrs. Deremo and Poysell pointed out that the trend to air conditioning answers the question, "What can we do to make the market comfortable and attractive for customers during the hot months?"

SHOPPING A PLEASURE

"Air conditioning makes shopping a pleasure, not a task," the report declared. "The customer stays in air conditioned stores longer, visits more departments, buys more items, returns oftener to buy more, and tells her friends who also come and buy."

It was found that customers did not remain in non air conditioned markets as long as they did in the cooled buildings. During hot weather the air conditioned markets reported an increase in business—while other markets suffered a noticeable loss for the duration of the hot weather period.

Direct benefits which the stores attribute to air conditioning were given in the report as:

"Produce retains its freshness and bloom much longer; it is just as eye appealing in the late afternoon as in the morning. This sells more produce. Losses are cut to a minimum, and this one feature alone, of greater produce sales with less losses, is argument enough for air conditioning.

CLEANER STORES

"In stores that are air conditioned, it is possible to make mass displays of smoked meats, dairy items, produce, and vegetables, which cannot be done in a store that is not air conditioned.

"Air conditioned stores are cleaner because of filtered air. It is not necessary to paint or decorate the stores as often as before.

"You can expect decreased electrical energy consumption on refrigerated cases because the cool store will not require peak operation of refrigerating machines.

"Air conditioning does more in an advertising way in the creating of goodwill and new trade than any other summer advertising.

"Clerks in the store do not become fatigued as quickly, and their approach and attitude to the customer is just as pleasant late in the day as in the morning."

While the need for air conditioning is admitted, the survey further recommended that the conditioning be done by a reputable company, and that a program of continuous maintenance be set up. The latter recommended that employes be instructed in the operation and checking of the system.

"Learn to make the proper settings on the thermostat in relation to the outside temperature," the report advised.

"Air conditioning equipment should be selected with full consideration to the type of power available, interior appearance of the building, water supply, water temperature, and water cost.

"In the ordinary climates and under average conditions the electric compressor (direct expansion) system which is the most expensive in relation to first cost, seems to be, in the long run, the most efficient and cheapest.

"You can use as a guide the rule of thumb method of saying the initial installation will cost $1 per square foot for each square foot of merchandising area to be air conditioned. This figure will take in the equipment, its installation, and other smaller items necessary for an efficient operation.

"For most installation problems it is best to rely on the reliable manufacturer you have selected to make the installation."

Panama White House Gets Cooling System

PANAMA CITY, Panama—Panama's "White House," official residence of the president known as "the Presidencia," will soon be equipped with a 60-ton air conditioning system, it is reported here. All offices, reception halls, and private quarters will be cooled by the new system.

Some of the offices and halls in the old structure contain valuable art works which must, of necessity, be protected. The reception hall, containing a gallery of portraits of former presidents, and the Yellow Hall, with its carved mahogany ceiling, presented special problems in connection with the ductwork layout.

The system to be installed consists of six units, so arranged as to operate alternately to handle varying load requirements, or simultaneously when necessary. Compressors will be of the heavy-duty type; the motors will have special insulation for the tropics.

The air conditioning work has been awarded to Amado and Co. John J. Amado, Jr., who designed the system, will be in charge of the installation.

Air Conditioning Aids Expansion of Factory Production

HOBOKEN, N. J.—Air conditioning as an aid to production in the present national emergency was discussed by D. A. Newton of Carrier Corp. before the New Jersey convention of the National Association of Power Engineers here recently. Mr. Newton pointed out that engineers should make an analysis of how production could be increased and products improved by means of atmospheric control.

"Factories are being expanded, and new plants are being built to produce at a greater rate than has been heretofore required. Before plant expansion has been definitely agreed upon as being the only means of increased production, we must study the product," he said.

"Air conditioning takes a decidedly important part in this step up of production," Mr. Newton added. "It might be surprising to know that in some instances average yearly production has been stepped up 50%, not by expansion, but by producing the produce under most favorable atmospheric conditions. In addition the quality has been improved and employe efficiency has been increased.

"Basically, air conditioning is purely a matter of hard and practical economics," he said. "It may produce comfort, but practically, air conditioning exists only because it enables us to produce more and better products at a lower cost."

Radiant Heating System May Have Zone Control

605 E. Fifth
Tilton, Ill.

Editor:

I am a very ardent reader of the NEWS and wouldn't miss an issue.

I am planning on building a new home this year and am going to use radiant heat in it with an oil-fired hot water boiler. The house will be 32 feet x 24 feet—2 inch rock wool insulated — 8-foot ceilings painted aluminum. What I want to know is this:

Can I use 1-inch copper pipe with hard soldered joints instead of wrought iron?

Will a dark hued plastic floor be okay over the cement?

Will 1,200 lineal feet of 1-inch pipe (copper) be enough to heat this house from —10° to +75°?

How about zoning the heating coils under the bedrooms and controlling same with thermostat and solenoid valves?

Of course I will use a circulating pump in the system. Can you help me on this?

HARRY SPEAR

Answer: In the Jan. 8 issue of AIR CONDITIONING & REFRIGERATION NEWS you will find a method of computing the amount of radiant heating necessary for the residence you plan to build.

There is no objection to using copper pipe with hard soldered joints instead of wrought iron if you provide for expansion and contraction of the copper. In other words, the copper pipe should be placed in a gravel or stone fill and not imbedded in the cement.

You must also take into consideration that the emissivity factor of a black surface is somewhat better than that of a bright copper surface, and for this reason it may be necessary to use more material. Both materials, however, have been successfully used in the construction of radiant heating systems.

To determine the number of lineal feet of 1-inch copper pipe necessary, you can obtain the ratings and B.t.u. per foot at various water temperatures from any supplier of copper pipe.

There is certainly no objection to using a plastic floor over cement.

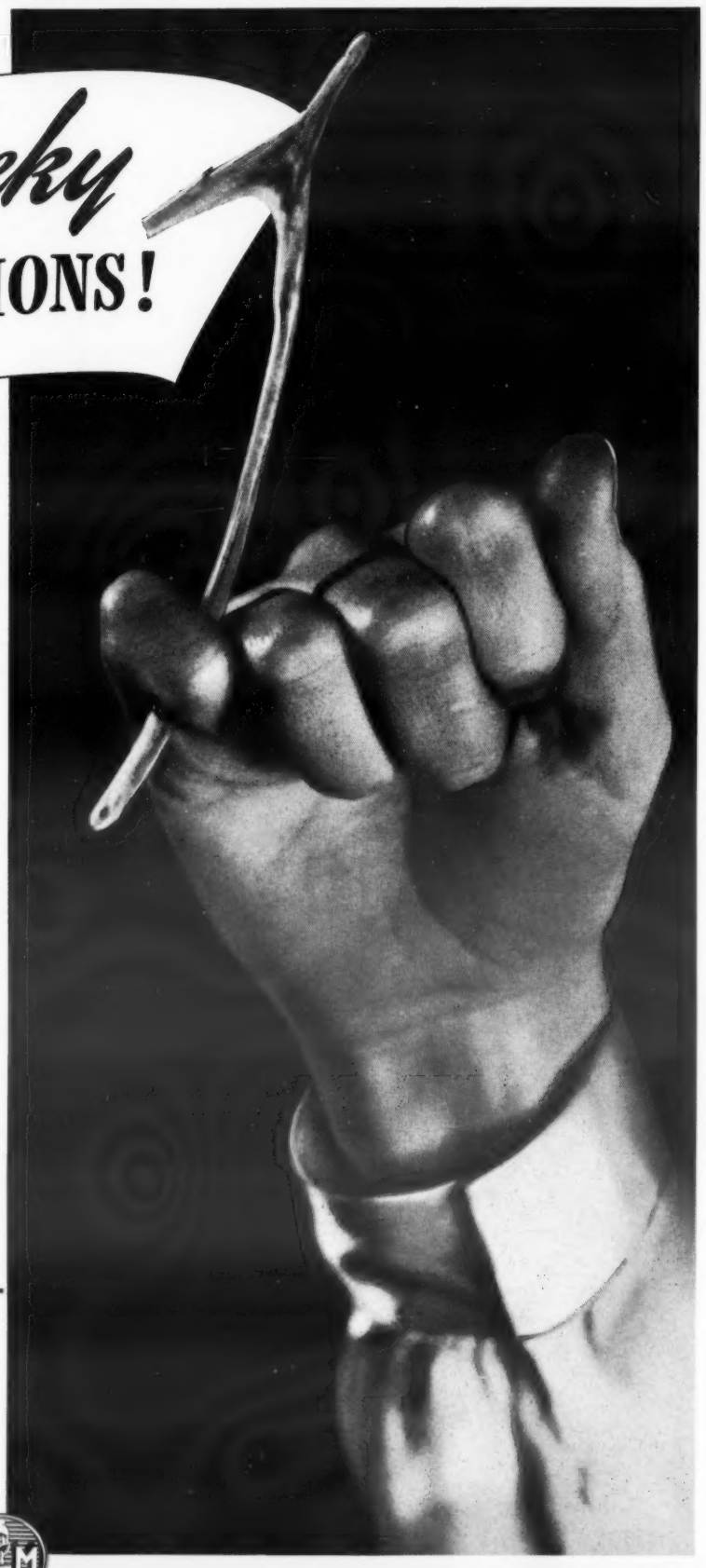
It is perfectly feasible to zone the coil sections under the bedrooms and living quarters of the house, but keep in mind that the heat radiations have no effect upon a conventional thermostat and that seldom if ever will you require a temperature of 75°, which you mention.

In ordinary operation the air temperature will be several degrees lower than the mean temperature of the room. One method of controlling the system is by an indoor-outdoor thermostat which regulates the temperature of the water flowing through the system either by a mixing valve or an aquastat. A discussion of the various control methods for radiant heating systems will appear in a forthcoming issue of AIR CONDITIONING & REFRIGERATION NEWS.

Anemostat Joins NACA

CHICAGO — Anemostat Corp. of America has become an associate member of National Air Conditioning Association.

How to Get Lucky on Your QUOTATIONS!



ARE you in a spot where the other guy seems to be getting all the breaks?

Maybe the reason you don't get a bigger share of "closes" on your quotations is that you need help you're not now getting.

Fairbanks-Morse can help you. Help you with an unusual line of thoroughly engineered products, priced right.

But more important! Fairbanks-Morse can help you with trained air conditioning engineers. They're not a thousand miles away, but *close to you.* Close enough to know by experience *your climate* and its problems. Close enough to know the kind of help that will enable you to *get orders.* Fairbanks, Morse & Co. has resident air conditioning engineers at 37 *factory branches* throughout the United States. One of them is near you.

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Air Conditioning Division
600 S. Michigan Ave., Chicago, Ill.

Yes, I want to get lucky on my quotations. Tell me how Fairbanks-Morse can help me do it.

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Address .....

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Manufacturers of Precision Equipment for 111 Years

PENN *Dependability* INSISTS UPON SYLPHON BELLOWS

Heart of Good Thermostatic Controls

Sylphon Bellows have earned wide acceptance among manufacturers in the refrigeration and air conditioning fields. In Penn Electric Controls, for example, "nothing less is good enough."

The efficiency and dependability of Penn products are due in no small measure to the combination of ruggedness and delicate sensitivity found in Sylphon Bellows . . . the bellows that is almost indestructible—17 times more durable, by actual test, than ordinary diaphragms.

Profit by the experience of the many who, year after year, use Sylphon Bellows . . . for crankshaft bearing seals, in packless valves, as thermostatic power elements and for many other purposes.

We'll gladly make recommendations. Write for Bulletin DO-511

THE FULTON SYLPHON CO.
KNOXVILLE, TENNESSEE
Representatives in All Principal Cities in U. S. A. and in Montreal, Canada and London, England

When A System Is 'All Wet'

What Driers Can and Can't Do In a Refrigerating System

Dr. Walker Talks To Detroit ASRE on 'Moisture'

By Phil B. Redeker

DETROIT—The plain facts about moisture in refrigerating systems—how it gets there and what to do about it after it does get in, were gives to members of the Detroit section of the American Society of Refrigerating Engineers at their monthly meeting at the Ft. Shelby hotel here Feb. 11 by Dr. W. O. Walker, research director for Ansul Chemical Co.

"Care, care, and more care" in handling and installing refrigerating equipment is the only way to keep moisture out of a refrigeration system, said Dr. Walker.

"And if moisture is in the system, driers are the best antidote," he said.

"But driers must be properly put up and properly used," he warned. "Best advice I can give those installing, servicing, and maintaining systems is that you buy factory made driers, so that all it is necessary for you to do is to put them on the machine."

PROCESSES PERFECTED

Manufacturing and "packaging" processes for refrigerants and oils have been so perfected that there is little, if any, chance of moisture entering the system through either of these mediums, said Dr. Walker.

Thus, most of the moisture that gets into a system (other than that which enters through a leak) is brought in on some of the materials used in the system.

A service man leaves the end of a piece of copper tubing open, or blows through it, or perhaps merely moves it from a storage place which has been cold to a place that is warm and humid.

What happens after moisture gets into the system?

"With sulphur dioxide," explained Dr. Walker, "there is only one reaction that takes place—a purely chemical reaction that results in corrosion if there is enough moisture present.

"But when moisture gets into a methyl chloride or 'Freon' system there are two kinds of reaction (1) the chemical reaction, and (2) freeze-ups.

CAUSE OF 'FREEZE-UP'

"Freeze-ups are a condition caused when the moisture in a system separates or crystalizes out of solution with the refrigerant and forms ice. The freeze-up occurs at some low temperature point in the system, often in the refrigerant metering device, so that there is a complete 'closing off' of the system.

"Some refrigerants," continued Dr. Walker, "can hold much more moisture in solution than others, but methyl chloride and the 'Freons' have little solubility for water.

"On the other hand, it takes much more moisture to bring about a corrosive effect with these refrigerants than it does with sulphur dioxide."

Moisture in a concentration of four-hundredths to five-hundredths of 1% in a sulphur dioxide system will start corrosion. When the concentration reaches one-tenth of 1% the corrosion effect will be pretty heavy.

"Moisture concentration must be thought of as the concentration in the place where corrosion is occurring, not as the average concentration in the system," Dr. Walker explained. "In places where moisture can be trapped, such as in a flooded evaporator, the concentration in a given area may be seven or eight times as high as the average concentration."

Corrosion is caused in most cases not by the refrigerant or the water, but by what happens when the refrigerant breaks the water down to formulate an acid which acts on metals, Dr. Walker explained.

Methyl chloride will act on aluminum directly, but "Freon-12" won't, he pointed out. However, when "Freon-12" is combined with water hydrochloric acid results and this will attack the aluminum.

Iron acts preferentially with such acids and the corrosive effect is greater on iron than it is on copper, Dr. Walker asserted. The exact nature of the sludges is difficult to ascertain, the speaker pointed out, so that it is not always easy to tell just where the corrosion is taking place.

MYSTERY IN COPPER PLATING

Causes of copper plating in machines is something of a mystery, declared Dr. Walker.

"Moisture doesn't seem to play a very important part," stated the speaker. "We've put hydrochloric acid in a machine and still got no copper plating.

"Poor oil, high temperatures, and the presence of oxygen all seem to play a part in the copper plating process.

"Generally speaking, when a good grade of oil is used, one which doesn't have a high percentage of unsaturates and which can't be oxidized, the tendency to copper plate seems to be eliminated."

At this point Charles Haven suggested that friction might be a factor in causing copper plating, pointing out that from his experience copper plating was present where there was friction, but absent on machined surfaces.

In discussing driers, Dr. Walker said that the test of a drier is not how much moisture it will hold, but how much it will reduce the moisture content of the substance—either liquid or gas—passing through it.

Questioned on specific drying materials, Dr. Walker said that while barium oxide is a good dryer, it will heat up considerably and will also "powder" out, so that another foreign substance may be introduced into the system. Calcium chloride will not reduce the moisture content as low as some other drying agents will do.

Emphasizing the need for extreme care in the handling and application of driers, Dr. Walker said:

"Remember, the better the drier, the more useless it becomes if it is exposed to the atmosphere."

WHAT ABOUT ANTI-FREEZES?

How about the anti-freeze, or liquid driers?

"All that the anti-freeze material can do is to increase the ability of the refrigerant to hold water in solution," said Dr. Walker.

"Methyl alcohol is okay, if used in concentrations of less than 1%, but if used in greater concentrations, particularly in a methyl chloride system, it will tend to cause corrosion.

"Anti-freezes don't cause sludges, contrary to what many service men believe. The anti-freeze will eliminate freeze-ups, but then the sludge condition which has been there all the time will make itself known.

"Once you have had corrosion in the system, you can't 'wish it away,'" asserted the speaker. "If sludge is in the system, you will have to tear it down and remove it."

How can a manufacturer be sure his machine is thoroughly dehydrated before sending it out to the field?

"Once oil is mixed with refrigerant it is difficult to determine the amount of moisture present," Dr. Walker explained.

"We have developed a test-tube test whereby a sample of the refrigerant oil mixture is put in a refrigerant bath and the temperature reduced in 5° steps. We then check the point at which moisture crystallizes out of the mixture. This point is directly proportional to the water solubility curve for the refrigerant."

KERO TEST
Valves and Fittings
The Standard of the Industry
Kerotest Manufacturing Co.
Pittsburgh, Pa.

Anaconda Copper
Refrigeration Tubes
Unusually long lengths!

THE AMERICAN BRASS CO
FRENCH SMALL TUBE BRANCH
General Offices: Waterbury, Conn.

COMING YOUR WAY ★ PENN'S 5-STAR SHOW
To Help You Boost Your Refrigeration Service!

● By fast express . . . to refrigeration engineers and service men in over 40 cities throughout the country—Penn's great new 1941 show is on its way!

Created by Penn sales engineers, field service engineers, and design engineers, it's a remarkable visual demonstration of refrigeration and air conditioning controls and control applications. Included in the elaborate demonstration equipment are active system hook-ups, giant control models which actually operate, and an entirely new educational film.

Designed as a service to refrigeration engineers and service men, and brought to you by the jobber of Penn controls in your territory, this show will help you give your customers better service in the selection, installation, and adjustment of refrigeration and air conditioning controls. Refrigeration engineers who saw it at a prevue in a large mid-western city praised it for its practicality. Leading refrigeration equipment jobbers acclaimed it at the January Refrigeration and Air Conditioning Exhibition in Chicago.

Penn Electric Switch Co. and your local jobber of Penn Electric Controls invite you to attend this big show when it comes to your city. First stops for the Penn Traveling Refrigeration and Air Conditioning Control School are shown in the column at the right. Ask your jobber when the show is to be in your territory—and make it a date! You'll say it's one of the most interesting, most helpful—and most profitable! —meetings you ever attended! *Penn Electric Switch Co., Goshen, Indiana.*

PENN

You'll Profit By Attending One *Of These Meetings*

Arranged and sponsored by local jobbers of Penn Electric Controls, every meeting is complete, streamlined—designed to give the most thorough demonstration of controls possible in a single evening.

Individual installation problems will also be discussed. Ask your jobber for the date of the Penn 5-Star Show in your city, or city nearest you . . . mark that date on your calendar . . . and then *—don't miss it for anything!*

ATLANTA, GA.
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COLUMBUS, O.
DAYTON, O.
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INDIANAPOLIS, IND.
KNOXVILLE, TENN.
LOUISVILLE, KY.
MADISON, WISC.
MANHATTAN, N. Y.
MILWAUKEE, WISC.
MT. VERNON, N. Y.
NEW HAVEN, CONN.
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SOUTH BEND, IND.
SPRINGFIELD, MASS.
TOLEDO, O.
TORONTO, ONT.
WILKES BARRE, PA.
WORCESTER, MASS.

Above towns are scheduled for presentation of the Penn Refrigeration and Air Conditioning Control School during the months of February, March and April. Penn Control jobbers, service engineers, ASRE chapters, RSES chapters and other interested parties not in the territories of the above towns are invited to contact the nearest Penn representative or write direct to Penn Electric Switch Co., Goshen, Indiana, regarding additional showings of this educational exhibit.

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F. M. COCKRELL, *Founder*

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Air Conditioning & Refrigeration In Defense Plants

THE refrigeration and air conditioning industry is playing a real part in the mobilization of America for national defense. Refrigeration for the preservation of foods and food products, and its relation to the preparedness program, is in general well known. Refrigeration for army cantonments, and for the navy, have been discussed in previous issues of the NEWS. Refrigeration for civilian needs—both health and morale—have also been treated at length.

Though less obvious, many other applications of the industry's services to the defense program are of equal importance. These applications apply principally to production in defense and related industries. Here are some of them, briefly outlined:

NEEDED FOR CLOSE TOLERANCES, PERFECT BONDINGS, ETC.

Machine shops producing precision metal work find a constant need for refrigeration and air conditioning for bringing castings and stock to predetermined temperatures. Expansion and contraction of metals under normal temperature variation is greater than many of the essential tolerances, and for precision work this normal variation must be eliminated.

An application of the extreme refrigeration of liquid carbon dioxide is useful in obtaining a perfect bonding of a rod and sleeve. The rod, after emersion in the liquid, contracts sufficiently to allow the sleeve to pass over it and, on returning to normal temperature, expands to form a bond with the sleeve.

GAUGE USE; PRODUCTION OF SYNTHETIC RUBBER

Calibrated gauges are often used to measure parts whose expansion or contraction due to temperature change is greater than specified tolerances. Accurately controlled conditioning of the air has been found necessary to the use of such gauges, to keep the gauge at design temperature and free of corrosion and dust which would otherwise render it useless. Similar applications are used in the manufacture of cameras, range finders, chronometers, and radio tubes.

Mechanical refrigeration has found a new application in the commercial production of synthetic rubber, where exceedingly low temperatures have been found necessary to the production processes. Should America be cut off from its Malayan supplies of natural rubber, and the synthetic rubber industries be called upon to fill the breach, the refrigeration needs and problems ensuing therefrom would be tremendous.

PROCESSING OF NYLON, REPAIR OF BOMB SIGHTS

The processing of synthetic products such as nylon (recently recommended for parachutes) and rayon is made possible by the use of air conditioning, which is essential to the uniform chemical reactions and aging of the spinning solutions.

In the repair of bomb sights and similar instruments, definite control must be maintained over air temperatures and cleanliness. The storage of such metals—duralumin, for example—requires a low temperature to prevent aging.

SAFETY GLASS, SURGERY, & OTHER HOSPITAL USES

Satisfactory bullet-proof or safety glass is impossible without air conditioning. The adhesive with which the pieces of glass are fastened together is extremely hygroscopic and an excess of moisture with respect to the critical point prevents adhesion and leads to discoloration, impairing or destroying vision.

The work of hospitals, especially surgery and post-operative care, has been tremendously benefited by air conditioning. Portable army hospitalization units are now introducing this new safety factor in first aid for use on the field. Refrigeration is absolutely necessary for the storage of blood, and of serums. Its uses in surgery are just becoming known, and are open to great development.

MANUFACTURE OF EXPLOSIVES, MAPMAKING, FABRICS

Humidity control through air conditioning is widely used in defense industry, in the manufacture of high explosives and fuses and in powder blending, in lithographic work and map making, and in the manufacture of uniforms, blankets, tire fabrics, and plastics of all kinds.

Removal of excess moisture from the air with which a blast furnace is blown increases capacity of the furnace about 15%, and makes possible a substantial saving in the fuel consumed in production.

WINDOWLESS & UNDERGROUND PLANTS, BOMBPROOF SHELTERS

The coming year will doubtless see many new additions to, or extensions of, the industry's contributions to defense plans. Windowless "black-out proof" plants, with air conditioning as a basic feature of the construction, are being planned, not only for defense production but in many industries where their inherent advantages, not just for emergency periods but for normal times as well, have been increasingly recognized and accepted.

They'll Do It Every Time . . . . . By Jimmie Hatlo

-AT THIS JUNCTURE THE PLAINTIFF WAS DIRECTED TO TELL EXACTLY WHAT HE SAW ON THE NIGHT HE BROKE INTO THE ALLEGED TWELFTH STREET LOVE-NEST. "WELL," HE SAID, " WE FORCED OPEN THE DOOR AND THERE I SAW—
DAILY TROMBONE
SKENDAL DIVORCE CASE PACKS COURT
SPICY DETAILS GIVEN AIRING
Copr. 1941, King Features Syndicate, Inc., World rights reserved
1-15
DOGGONE 'EM! THEY'LL DO IT EVERY TIME—
SMOKE
FINANCIAL
THANX TO P.H. ROGNLEY, PITTSBURGH, PA.

Practically all of the new plants now being erected for defense production employ refrigeration and air conditioning in at least one form. Many of these installations represent experimental applications. AIR CONDITIONING & REFRIGERATION NEWS plans to follow the operation of these systems, check results, and make available to the industry the information derived as fast as such experience can be recorded and evaluated.

LETTERS

AND NOW—COMPLAINTS IN VERSE

American Injector Co.
1481-1491 Fourteenth Ave., Detroit, Mich.
Feb. 3, 1941

My Dear Phil:

You are a pill
And a procrastinator,
Your write up took in all the bill
But missed our Dehydrator.

You came to see the high side float
And the "Erl" separator,
But then you missed the bloody boat
Without our Dehydrator.

And so I think
Your printers ink
Must not have had a pater,
For how could it legitimately
Miss our Dehydrator?

So I will bet
That you're all wet
How can I tell it straighter?
But you'll be dry
If you just try
Our "Suredry" Dehydrator.

ED. KELLIE

'TONS OF THE BEST' FROM AUSTRALIA

F. C. Lovelock, Pty. Ltd.
16-20 Young St., Sydney, Australia

Dear George:

Just a few lines as an enclosure with a letter and order that are going out by Clipper mail today, and I trust they will reach you in time to wish you and yours all the best for Christmas and for the New Year.

Will you please also send our greetings to Mrs. Cockrell and Miss Helen and to the staff of the Business News Publishing Co.

I was very pleased to see an excellent picture of you and some of my other good friends over there in copies of the NEWS recently received by us, and I trust that you are feeling as well as you look.

From what you have told us in your paper, the Convention next month is going to be even bigger, brighter, and better than such Conventions of the past, and already we are looking forward to full reports in the NEWS.

Cheerio, and again tons of the best.

FRANK E. HANSEN

'I WOULD LIKE TO KNOW . . .'

201 E. Ninth
Hutchinson, Kan.

Editor:

I would like to know who manufactures the "unitary storage refrigeration equipment" and the "combination asbestos and magnesium prefabricated duct" material as mentioned in an article written by Carl F. Boester and published in your April 10, 1940 issue.

HENRY R. WALTER

Answer: The "combination asbestos and magnesium prefabricated duct" material mentioned in the article is manufactured by the Phillip Carey Co., whose main office is in Cincinnati, Ohio.

The "unitary storage refrigeration equipment," designed by Mr. Boester who is now director of housing research at Purdue University, Lafayette, Ind., was fabricated by the Marlo Coil Co., 6135 Manchester Ave., St. Louis, Mo., to his specifications.

'GREATEST POSSIBLE INTEREST' IN NEW ZEALAND

Charles Begg & Co., Ltd.
The Home of Music and Electrical Appliances
43 Princes St., Dunedin, N. Z.

Editor:

We have received your letter of Sept. 12, mentioning the story published on page 3 of your Sept. 11 issue of AIR CONDITIONING & REFRIGERATION NEWS. We have read the story in the copy of your publication which has reached us, and we wish to thank you sincerely for your kindness in giving us this publicity.

We note you would be interested in having particulars of any further activities of ours, and we shall be pleased to send these to you, should we have occasion to do so.

We look forward to the arrival of your paper with the greatest possible interest, and it is circulated regularly throughout our branches.

CHAS. E. BEGG,
General Manager

'THINK THE MANUALS ARE TOPS' IN CANAL ZONE

Cristobal, C. Z.

Dear Sirs:

I am today in receipt of the Service Manuals which I ordered from you a short time ago, I am enclosing a Post Office Money Order in the amount of ($2.00) two dollars as per your invoice.

I wish to thank you for the prompt shipment of the manuals as I was in need of the one that covers service on the "Orphans." They are just what I need and I hope to complete my library soon. I have on hand six of the seven Service Manuals which I ordered from you while I was employed by Georgia Power Co. I think the manuals are tops and I wouldn't trade mine for any others that I have seen.

Thanking you again for your kindness and with best wishes for the coming year.

W. J. PARKER

Malverne, L. I., N. Y.

Sirs:

Keep the NEWS coming every week. By all means.

HAROLD GLASSER

Leveling Ups & Downs

Contract Service Business Can Show Profit In Small City

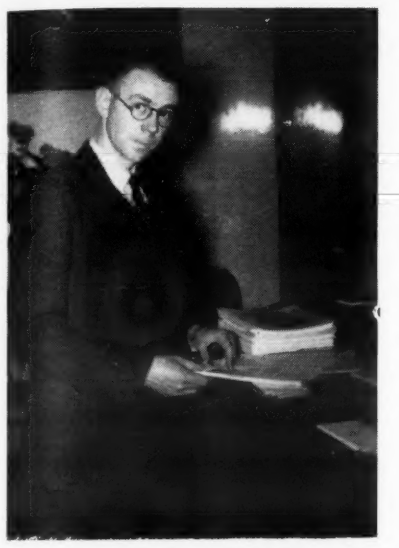
PORTSMOUTH, Ohio—What about doing refrigeration service work on a maintenance contract basis in the average size city—say of around 40,000 population? How much business must the serviceman do to "pay out" on such a basis?

Forrest Poole of the Poole Refrigeration Service Co., Portsmouth, does most of his business on a contract basis, and is very happy with his setup.

"The most desirable thing about having your business on a maintenance contract basis," he says, "is that there is only a maximum fluctuation of 25% in your business from the busiest time in the hot summer months to the leanest time in the middle of winter.

"Since the 'get rich in the summer' and 'starve in the winter' con-

Happy With His Setup



FORREST POOLE

dition has been one of the biggest problems in the refrigeration service business, maintenance contracts certainly seem to be one way of meeting the problem."

However, there are certain principles which must be followed in doing service work on a maintenance basis, says Mr. Poole. He has established certain regulations for himself, which he follows rigorously.

His charges are—$1.50 per month per condensing unit on commercial refrigeration. This covers labor only, and possibly some parts in minor repairs. But all parts in any major repair operation are in addition to the maintenance charge.

Mr. Poole doesn't handle household refrigerators on maintenance contracts—chiefly because he doesn't want to be bothered by them. But he thinks:

"I believe a serviceman could charge $2.50 to $3 per year for maintenance on household refrigeration units, making perhaps quarterly inspections, and make plenty of money. However, since charges on household unit repairs are generally considerably higher than this, most servicemen prefer to take this work on a single call basis."

Monthly inspections on commercial refrigeration contracts **must** be made faithfully, says Mr. Poole. More often than not all the serviceman has to do is to oil the motor and clean the condenser, or sometimes put on his test gauges, but the point to be kept in mind, says the Portsmouth operator, is that the user of the equipment wants to feel confident that his refrigeration system is being regularly checked and looked after, and that he can have complete confidence in his refrigeration system.

According to Mr. Poole's way of thinking, a minimum of 75 service contracts is necessary for a successful business of this type. Some of his business is with chain stores, some with independents, some with manufacturers who have no local representation.

On units that are within the refrigeration equipment manufacturer's guarantee period, Mr. Poole does no contract work, handling such units on an **inspection** basis only. In other words, he takes a flat fee for checking the operation of such units in the guarantee period.

"I like to get this inspection work," says Mr. Poole, "because it is very easy to get a maintenance contract out of such people once the guarantee has run out!"

On "strange" units which he hasn't installed, and about which he knows little if anything, Mr. Poole requests a two months' "observation period" before he will permit the owner to take a maintenance contract.

By checking the operation in that period of time, says Mr. Poole, he can determine whether or not the system is in too bad shape to risk putting it under contract.

Jobber Claims Record For Travel To Show

ST. LOUIS—Brass & Copper Sales Co., St. Louis jobber, has established what it believes is a record for attendance from a single jobbing organization at the last two All-Industry Exhibitions.

At the 1940 meeting, Brass & Copper Sales had nine staff men in attendance at the Show, reports H. H. Hubbell, general manager, and this year seven members of the organization were present, including two men from the engineering department, the purchasing agent, two outside salesmen, the superintendent of the refrigeration warehouse, and Mr. Hubbell.

Niagara Frontier R.S.E.S. Installs New Officers

BUFFALO—New officers of the Niagara Frontier chapter of Refrigeration Service Engineers Society were installed at the annual banquet in the Como Restaurant here. They are:

President, John K. Bush; vice president, Stanley Szyszkowski; secretary-treasurer, William Goeckel; and sergeant-at-arms, Peter Rosenberger. Awards were presented to John Muller, the retiring president, and Mr. Szyszkowski, former secretary, for their service to the organization during the past year.

Ed. Marsden Elected Head of Wholesalers Group

HARTFORD, Conn. — Edward C. Marsden, president of Marsden & Wasserman, Inc., heating and refrigeration supplies jobbing firm, was elected president of the Plumbing & Heating Wholesalers of New England at their recent meeting in Boston.

New Fresno Firm Formed

FRESNO, Calif. — Air Conditioning Equipment & Sales Co. is the firm name under which R. B. Denham has obtained a certificate to conduct business at 1922 Tuolumne St., Fresno, Calif.

YOU SAVE *THREE WAYS* with the New Dry-Zero Bound-Batt

You can equip your refrigerators with Dry-Zero Bound-Batt at the cost of ordinary insulations.

1 Lower in First Cost
2 Easier to Install
3 Can Be Cut on Job

There is no need to use an insulation in your refrigerators that becomes water-soaked. For now you can enjoy the advantages of lifetime Dry-Zero at no extra cost. The new Bound-Batt is priced lower and is easier to apply than older forms of Dry-Zero Insulation. It is stiff enough to handle easily, yet flexible enough to fit irregular contours. Bound-Batt is supplied in rolls which can be cut on the job, or slabs pre-sized to any dimension.

Dry-Zero Bound-Batt is water-repellent (non-hygroscopic). Even under humid conditions it retains its heat-stopping efficiency. It has a "k" factor of 0.24 and will not rot, pack, or absorb odors. Investigate this new Bound-Batt.

Send for Bulletin 12B

Dry-Zero Corporation
Merchandise Mart, Chicago
Please send me a copy of your Bulletin 12B
Name_____ Title_____
Company_____
Address_____

DRY-ZERO BOUND-BATT
THE MOST EFFICIENT COMMERCIAL INSULANT KNOWN

'Scattergun' Mailing of 25,000 Postcards A Year Brings New Business To Sales & Service Firm

BALTIMORE—Hitting prospective service customers with a "scattergun" promotion of from 15,000 to 25,000 penny postcards a year, rather than concentrating on a select list, Electric Refrigeration Co., sales and service firm here, has found that this "law of averages" advertising pays dividends in new business, according to E. E. Starkey, manager of the firm.

The postcards are printed up on a stenciling machine and are mailed to a list which is made up of customers and prospects taken from listings in the telephone directory, from service men's leads, or from any source which may produce a possible customer. The cost of this program is very small compared with the returns, Mr. Starkey says.

A consistent advertising program in newspapers and telephone directory backs up the postcard promotion. The firm has a yearly contract with two newspapers, calling for at least two lines a day—every day. This contract drops the rate considerably and is effective in keeping the firm's name before the public. Advertising also appears in community newspapers and church programs.

"We attempt to circularize the entire refrigeration industry in this area," Mr. Starkey says. "We consistently contact every possible customer—from morgues to taverns—to let them know we are in business and to keep telling them what we offer."

In addition to regular service on household and commercial refrigeration, the firm sells new and reconditioned household refrigerators, commercial refrigeration equipment, and oil burners.

To spark the sale of new or replacement parts by service men, the company offers a 5% commission on any service job which totals over $12.50. To collect this commission the service man must be directly responsible for the job.

A 5% commission is also paid to service men on the sale of reconditioned refrigerators. The service men are on a salary basis the year around, so that these sales commissions offer a means to improve income—if they step out and sell.

From service customers come leads for the sale of new or reconditioned refrigerators. Mr. Starkey does the bulk of the selling job on new units, and also acts as appraiser for trade-ins. These trade-ins are reconditioned in the firm's own shop, and the demand for these has been steadily increasing.

The reconditioned refrigerators are sold with a year's guarantee if the selling price is over $50, and with a six months' guarantee if sold for under $50. The average sales price was said to be around $40.

The bulk of the service business is on a per call basis.

NO WAITING! NO WORRY!

DU PONT Artic REG. U.S. PAT. OFF. — *The Preferred* METHYL CHLORIDE
Every Cylinder Tested • Not Less than 99.5 Min. Pure

PROMPT SHIPMENTS

COAST -TO- COAST Distribution

DU PONT — For information about nearest source of supply, write to: THE R. & H. CHEMICALS DEPARTMENT · E. I. DU PONT DE NEMOURS & CO. (INC.) · Wilmington, Delaware
or NATIONAL AMMONIA DIVISION Frankford, P. O. Philadelphia, Pa.

What's New

Descriptions of some of the brand new items for the refrigeration and air conditioning, and major appliance fields.

Aminco Introduces One-Piece Dehydrator

DETROIT—American Injector Co. has introduced a new addition to its line of refrigeration products, the "Suredry" dehydrator, charged with Silica Gel, and featuring one-piece copper shell with sweated fittings.

The dehydrators may be used as permanent installations, the company claims. One-piece copper shell is said to eliminate two shell joints and to remove the need of hydrogen welding, with resultant possibility of brazing material plugging the filters, and to assure full filtering area.

Durex bronze filters, used at each end of the dehydrator, are said to give a filtering effect equal to a 200-mesh screen, but with several times the filtering life and capacity of a screen. The filter is composed of thousands of small bronze spheres fused together under pressure.

To recharge the filter, the outlet connection is unsweated, the conical bronze filter withdrawn with it, and the used Silica Gel poured out. After the new charge is poured in, the outlet filter and connection is then inserted and resoldered.

Ranco Announces Type 'O' Control

COLUMBUS, Ohio—Introduced to manufacturers and jobbers at the All-Industry Exhibition in Chicago, a new Ranco control known as the type "O" is now in production at the company's plant here.

Simple in design and construction, and containing few working parts, the new control is available in both temperature and pressure models and is designed for application in walk-in coolers, refrigerated display cases, milk coolers, ice cream cabinets, and other types of commercial refrigerating equipment.

Underwriters' rating on the unit is 1 hp. 110 or 220 volts a.c., ½ hp. 115 or 230 volts d.c. with magnet, or ¼ hp. 115 or 230 volts d.c. without magnet.

Claimed to be the first commercial control with all working parts made of stainless steel, the type "O" has a transparent plastic insulator of high dielectric value, large silver contacts, and a patented Ranco-developed mechanism. It is featured as a two-in-one control—with constant cut-in when the control knob

Ranco's Type "O" Control.

is mounted on the differential screw, and with constant differential when the control knob is mounted on the range screw.

Lock-plate, like the control knob, can be transferred from range to differential screw, and serves as a stop for the control knob, at the same time locking the position of the other screw to prevent its adjustment by an unauthorized person.

Neoprene Coated Gloves Marketed

AKRON, Ohio—A new line of Neoprene coated canvas work gloves in both the knit wrist and the gauntlet type is announced by Miller Rubber Co.

The new gloves resist oils, fats, and greases and are said to afford complete hand protection in practically all work where gloves are used. The Neoprene coating gives the gloves a tough wearing surface, and considerably increases their service life, it is claimed.

Temprite Produces Accumulator-Exchanger

DETROIT—An "accumulator-interchanger" is the name given by Temprite Products Corp. to its new product which is claimed to provide maximum heat exchanger benefits at all times under all conditions.

The accumulator feature is said particularly to overcome the problem of the "inactive" period of operation at the start of the cycle, when the system gets its hardest test. Spilled over refrigerant from the evaporator collects in the accumulator-interchanger until the liquid coming through the liquid line warms up sufficiently to permit the regular heat exchanger function.

This new Temprite device is of all copper hydrogen weld construction. Use of the copper hydrogen furnace weld, it is explained, insures hermetic sealing. In addition, the 2,000° temperature and the reducing atmosphere to which the entire unit is subjected in the process of welding removes all traces of dirt, scale, or moisture, it is claimed.

The line carrying the hot liquid forms loops inside the shell, with a suitable clearance left between the loops and the interior surface of the shell.

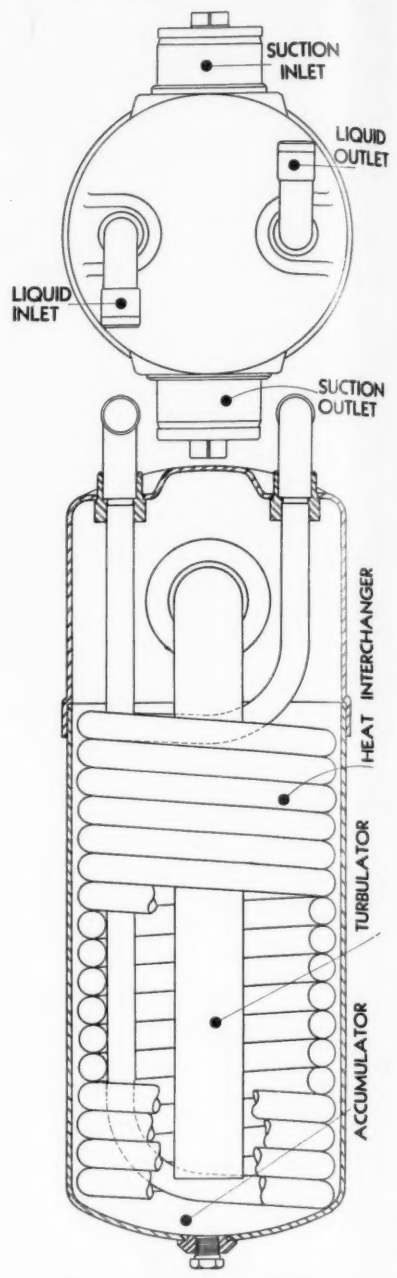
Suction gas from the evaporator is brought in through a "turbulator" tube which extends straight down between the loops and from which the gas is discharged in a swirling movement against the bottom of the shell, so that it rises in such a way as to provide a "wiping" action on the loops of the hot liquid line. Temprite engineers declare that this helps to obtain nearly 100% heat exchange efficiency.

Furthermore, it is claimed that this "turbulator" tube emulsifies any oil that might come through from the evaporator, so that it is broken up and does not go back to the machine in the form of "slugs."

With the accumulator-interchanger, say Temprite officials, use of 100% of the coil surface is assured, higher back pressures are possible, and the thermal bulb can be placed between the accumulator-interchanger and the compressor and the service engineer can be assured that any expansion valve setting will hold.

But the prime feature of the device, say Temprite engineers, is that it arrests and drys out all unexpanded refrigerant leaving the evaporator, including even spillovers on starting, or that caused by a hunting expansion valve.

New Heat Exchanger



Dupont Develops New Polish For Dulux

WILMINGTON, Del. — A new polish, designed for use on electric refrigerators, ranges, cabinets, mangles, and other enameled household equipment, has been developed by chemists of E. I. du Pont de Nemours & Co.

The new product is recommended for the white Dulux finishes used on refrigerators and other household appliances. It can also be employed on lacquered or enameled metal surfaces, but is not recommended for older-type varnished finishes.

Tests show the refrigerator polish effective in removing stains, dirt, and grease commonly encountered in active wear, it is claimed.

2 Dishwasher-Sinks Added By Hotpoint

CHICAGO—Two new 1941 dishwasher-sinks, specially designed for sale to the building trade, have been announced by Hotpoint. One is equipped with sink top, having space beneath the back-splasher for faucets, to be provided by the plumbing contractor, along with other fittings not a part of the dishwasher. The other is a dishwasher-cabinet combination, without sink top, for installation beneath special sink or cabinet tops.

Units are encased in bonderized steel cabinets, finished in white Calgloss. Both models include the Hotpoint two-rack electric dishwasher with front-opening door.

Pocahontas intercedes with Powhatan for Captain John Smith—the determined leader of America's first permanent English settlement—in Virginia.

VIRGINIA—a name that has earned respect

It takes leaders to blaze the trail in a new settlement—or a new industry.

And we are proud to number ourselves among the trail-blazers in creation of a major industry—refrigeration.

Today, the Virginia Smelting Company is working for the same constructive principles of merchandising and distribution which have always guided us—for policies which make the refrigeration industry a better business for all of us.

BUY YOUR KINETIC'S FREON-12* via VIRGINIA *Reg. U. S. Pat. Off.

EXTRA DRY ESOTOO · Methylene Chloride · V-METH-L

VIRGINIA SMELTING CO.

Located at tidewater

WEST NORFOLK, VIRGINIA

V VIRGINIA

U. S. GOVERNMENT Specification

Filtrine

Cafeteria Coolers

Filtrine Mfg. Co., Brooklyn

Dayton V-BELTS

Silent, vibrationless, dependable, long-lasting. Powerful grip prevents slippage. A nearby distributor carries a complete stock for appliances and machines.

THE DAYTON RUBBER MFG. CO., DAYTON, OHIO

World's Largest Manufacturer of V-Belts

You Can Sell This Big, Growing Market with CURTIS Packaged Air Conditioning Units!

- Restaurants
- Taverns
- Barber Shops
- Offices
- Beauty Shops
- Apparel Stores
- Shoe Stores
- Drug Stores

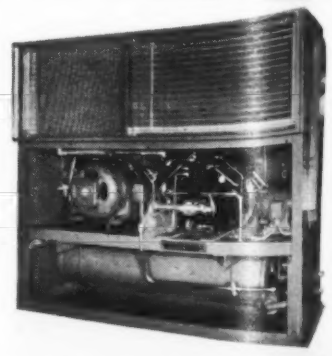
And that's only a partial list of the many, many examples of business establishments and retail stores providing the growing market for Curtis Packaged Air Conditioning.

Curtis Air Conditioning units range from 3 to 15 tons in capacity. They are quickly and easily installed, attractive in appearance, easily financed, and engineered to give lasting satisfaction to the user.

The wide range of capacities offered by Curtis meets all requirements of this vast potential market interested in complete mechanically refrigerated, low cost air conditioning. Competition is forcing merchants everywhere to install air conditioning to hold their trade.

Here is your opportunity to make greater sales and profits this year. Write for complete information on the complete Curtis line today.

(Above) 3 and 5 ton Packaged Type Air Conditioner.



(At Right) 7½, 10, and 15 ton Central Type Air Conditioner.

Curtis Refrigerating Machine Company

Division of Curtis Manufacturing Co.

1912 Kienlen Ave. St. Louis, Mo.

Established 1854

CURTIS REFRIGERATION AIR CONDITIONING and COMMERCIAL

Spirited Floor Discussion Keynotes Meeting of Michigan Locker Men

Operators Seek Specific Advice on Problems of Taxation, Game Storage, & Food Processing

By James McCallum

EAST LANSING, Mich.—Talks on the legal aspects of the locker business, the preparation of meats and produce for locker storage and their proper use in the patron's home, and the application of various commercial products to locker plant operation were presented at the second annual conference of the Michigan Refrigerated Food Locker Plant Operators Association held Feb. 11-13 at Michigan State College here.

Each talk provoked a crossfire of discussion from the floor which provided an interesting insight into the problems actually besetting the Michigan locker plant operator today.

Plant operators evinced a vital interest in the way in which their rapidly growing business is conducted, and each new address by a scheduled speaker touched off a new and extemporaneous barrage of pro and con questions and comments.

Locker patrons, too, had their say-so in a session captioned "What My Lockers Mean To Me." During this period selected locker users described some of their experiences and gave voice to their opinions on plant operation.

ASSOCIATION OFFICERS RE-ELECTED BY ACCORD

Following the frozen foods banquet Wednesday evening, members of the state association held a business meeting during which they unanimously re-elected the association's present officers and voted to submit a set of proposed rules and regulations governing locker plants to the state department of agriculture.

Speakers at the banquet were E. L. Anthony, M.S.C.'s dean of agriculture, who outlined the services offered by the college, and Ed. G. Squire, president of the national locker association, who discussed the locker plant movement from the national viewpoint.

Other features of the two and one-half day conference included a frozen food display, meat cutting, poultry boning, and slaughtering demonstrations, and a tour of the college's home economics department for the ladies present.

Legal aspects of locker plant business in the State of Michigan were covered on the final day of the conference when Glenn W. Davis, director of the department of agriculture's bureau of foods and standards, discussed laws applying to locker plant operation; W. A. Bergin of the state conservation department explained the regulations concerning game storage; and Walter Reddy, consultant for the state sales tax administration board, told operators how the sales tax applied to their plants.

LICENSE FEE TO PAY FOR PLANT INSPECTION

Mr. Davis explained in what ways the locker plants were subject to the general food laws of the state, such as the sausage law and the canning law. He pointed out that when the canning law was enacted there was no thought of frozen food plants, and expressed the belief that within the next few years an opinion probably would be necessary as to whether or not this law applies to locker plants.

The regulations proposed by the locker association, Mr. Davis declared, have an advantage over a law in that they can be changed at any time by petition of a majority of the members of the industry. The licensing fee described in these proposed regulations, he stated, would be earmarked for a well trained locker plant inspection service.

Mr. Bergin explained that the 10-day storage limit on game birds, deer, and bear had been changed to 30 days for birds and 60 days for deer and bear. Time extensions up to six months can be obtained in most cases, he pointed out, by requesting special permission from the conservation department.

Mr. Reddy explained that industrial processors are exempted from the payment of sales tax on their purchases of equipment and supplies on the grounds that the processor produces a tangible product which will eventually be sold at retail and will then be subject to sales tax. He declared that all locker plants should be registered with the sales tax department, and that the operators should keep complete records which accurately and truly portray the nature of their business.

All three of the talks set off a running fire of discussion which revealed that neither the locker operators nor the state department representatives themselves were too certain of their ground. Very obviously the new and growing locker industry is posing a variety of problems on which the state departments are not yet prepared to definitely rule.

Considerable attention was devoted to the processing, freezing, and storage of fruits and vegetables—a favorite topic of locker meetings. H. L. Seaton of the college's horticultural department handled these discussions.

C. W. DuBois of the New York State Agricultural Experiment Station at Geneva, N. Y. handled three topics—the public health aspects of frozen foods, the packaging and wrapping of frozen foods, and the nutritive values of frozen foods.

In regard to public health, Mr. DuBois contended that legislation covering plant sanitation was definitely on the way in practically every state. He reminded his listeners that freezing causes some destruction of bacteria but does not sterilize the product, and that the remaining bacteria continue to grow even at low temperatures.

A discussion which developed on the light ray method of curing meat revealed the opinion that the light retards bacterial growth, but does not age meat directly. This aging, it was agreed, results from the higher storage temperatures made possible by use of the lights.

That locker plant operators might assist their patrons in getting the most good out of their lockers, members of M.S.C.'s foods and nutrition department discussed budgeting for the year-around use of the locker, and the cooking and serving of frozen foods.

The frozen food display consisted largely of samples brought in by the operators themselves. A great variety of meats, fruits, and vegetables were shown, and the various samples were opened so that the operators might taste for themselves the products of other plants. Discussion of the various samples was led by the members of the M.S.C. faculty who participated in the conference.

Representatives of manufacturers of locker plant equipment and supplies were given an opportunity to promote their companies' lines and to offer their suggestions for the improvement of locker service. Among those taking advantage of this opportunity were Al Schoeberlein of All-Steel-Equip Co., William Ennis of Armstrong Cork Co., W. Kleinschmidt of the Deepfreeze organization, and Lee Horton of Lindley Box & Paper Co.

MANUFACTURERS' MEN OFFER THEIR ADVICE

Mr. Schoeberlein suggested a number of ways in which a locker plant operator might set about promoting his plant to the community. Among his tips were these: have a demonstration locker unit, complete with typical packages, in the front office, so that you can demonstrate to prospective customers without freezing them to death; whenever a patron gives up his locker, switch the lock to prevent any possible future pilferage; contact local credit unions for possible prospects; handle a commercially packed line of frozen foods.

Mr. Ennis showed a colored movie on the processing of frozen food and the operation of the Armstrong Polar Chest and Polar Wheel locker systems. Mr. Kleinschmidt announced that his company had just added a special representative whose sole duty was to propagandize the preservation of foods by freezing. Mr. Horton showed some colored slides illustrating the advantages of his company's locker packages.

MASTER Lockers Up Store Volume 50%

That is the result secured by W. R. Selby, Groceries & Meats, at Parker, S. D. during the first year's operation of his *Master* equipped locker plant.

Read what Mr. Selby has to say—note this increase does not include locker plant business—

"While I had expected a healthy increase in my business, as a result of the installation of my locker plant equipped with Masterbuilt Lockers on October 7, 1939, I was agreeably surprised to find that my business had increased over 50%. This increase does not include the revenue or business of the locker plant itself.

"Going to and from their lockers, as they do several times a week, naturally causes the renters to purchase other merchandise which I sell. Good lockers, combined with good service, is, I believe, the answer to increased volume for merchants everywhere.

"I was so pleased with the results that I am passing the good news along to you."

(signed) W. R. Selby
dated Nov. 1, 1940.

Master Has a Size and Type To Fit Your Needs

With three types and 30 sizes there is a *Master Locker* that will fit your needs. Illustrated is the SAF-T-LOC which with the "2 in 1" Convertible and HyDroLoc give you a wide range to select from.

Master Lockers have features that are designed to save locker plant owners money, time and labor. *Send for complete detailed information.*

Endorsed and sold only through distributors of refrigeration and insulation.

MASTER REFRIGERATED LOCKER SYSTEMS, Inc.
121 Main St. Sioux City, Iowa

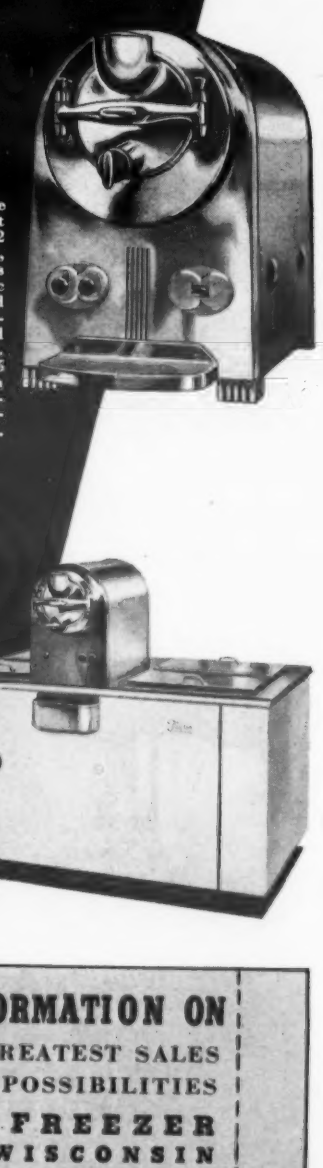
Nearly 200,000 Masterbuilt Lockers in Use

7 REASONS

Why You'll Make **MORE SALES and PROFITS**

WITH *Taylor!*

- **EXCLUSIVE ON 85½% OF MARKET**
  85½% of all ice-cream outlets sell less than 1000 gallons a year. Only one freezer—the Taylor SPEED-EASE—gives them ALL the facilities they need at a price they can pay from savings on their gallonage.
- **THE NEW DU-MORE**
  Taylor's new DuMore offers high-priced performance in a small low-priced counter model for frosted malted and other freezer-fresh specialties. It's the most compact and efficient unit for this larget market.
- **COMPLETE LINE**
  Other Taylor Models are available to meet any and all requirements. As a Taylor distributor, you have 100% market coverage.
- **STRONG SALES SUPPORT**
  Consistent national trade-paper and direct-mail advertising, and powerful sales ammunition, make it easier for you to sell Taylor Freezers. Taylor's success is based on selling FOR distributors, not to them.
- **FINEST FREEZERS MADE**
  Taylor Freezers have many exclusive, outstanding sales features and advantages. Taylor is the the only counter freezer with performance, efficiency, economy, and durability proved since 1926.
- **COMPETITIVE PRICES**
  Yet Taylor prices are competitive and within the market's ability to pay. Selling Taylors, you offer greater value.
- **A REAL PROPOSITION**
  Distributors seeking new sources of sales and profits can get a real, paying proposition. Discounts allow ample margin for profit. Protected territory if you qualify.



DuMore One compact unit less than 2 square feet, but contains automatic freezer and sealed, self-contained compressor. Capacity 5 gallons an hour. No installation—just plug it in.

Speed-Ease The "all in one freezer" for the 85½% mass market. Freezing, hardening, and dispensing facilities for up to 15 or 20 gallons a day. Complete with self-contained compressor.

Mail This Coupon **FOR COMPLETE INFORMATION ON**
THE FREEZER FRANCHISE THAT OFFERS YOU THE GREATEST SALES AND PROFIT POSSIBILITIES

Name_____
Address_____
City & State_____

TAYLOR FREEZER
BELOIT, WISCONSIN
by_____

Gale Applies Principle of 'Fluid-Cooling' To Household Refrigeration Condenser

By E. F. Maltby, Gale Products Co.

A new fluid-cooled static condenser for household refrigerator systems which uses the same fluid over and over again and thus can be operated without any plumbing connections has been developed by Gale Products Co.

This unit made its bow to the refrigeration trade at the January appliance and housewares shows.

Philip Sidell, an engineering graduate of the University of Illinois who worked for Frigidaire for a short while before joining the Gale organization in 1938, is credited with the development of the unit.

In studying the theory of thermo-syphon cooling, Mr. Sidell conceived the principle by which it could be applied to refrigeration condensers. In working on this idea, he first developed an equalizer to prevent motor overloading and overheating, decrease running time, equalize gas temperatures, and reduce power consumption.

It was during the time required for field testing of the equalizer that Mr. Sidell worked on the application of the thermo-syphon principle to refrigerating condensers. The new Gale condensing unit is the outcome of his experiments.

This condenser is designed to overcome many of the disadvantages of the conventional static condenser capillary tube type of system.

Water cooled condensers are not at present being used in household refrigerators because of the additional cost required to build them and furnish the proper control valves, and also because plumbing connections would be required at the time of installation. The new Gale unit is virtually a water cooled condenser, but instead of taking on fresh water and discharging it into the sewer mains after it has been warmed up, the Gale condenser stores the hot fluid which has chemicals added to prevent freezing and corrosion, in a reservoir during the running cycle, cools it during the off cycle, and then re-uses it.

The fluid is partially cooled before reaching the reservoir, because as it passes through the fin tube surrounding the refrigerant tube, it gives up what heat it can to the air. The remainder of the heat is retained in the fluid, which circulates into the reservoir.

When the compressor shuts off and heat is no longer being given up by the refrigerant tube, the fluid circulates back out into the fin tubes and cooling is continued until the initial temperature is reached.

The refrigerant tube passes through the fluid tube, which carries the heat dissipating fins, and the fluid tube is connected to the reservoir in such a way as to take advantage of the principle of thermo-syphoning, to give it the required circulation.

As the heat is being given off by the refrigerant tube it is picked up by the fluid surrounding it, which in turn dissipates by means of the fins that amount of heat which the air can carry off, without necessitating higher head pressures in order to obtain a higher condenser temperature.

The rest then circulates into the reservoir, because as the fluid surrounding the tube is heated it flows from the tube into the top of the reservoir, forcing the cool fluid out the bottom into the tube. Then, after the compressor shuts off, the hot fluid in the tube cools down and the circulation is reversed; it now flows out of the tube into the bottom of the reservoir, forcing the hot fluid out the top.

HEAT DISSIPATED RAPIDLY

Since the fluid has a very high specific heat and extremely high density in comparison to air, the heat from the refrigerant tube in the fluid cooled condenser can be dissipated very rapidly to the fluid, and the unit permitted to shut off, while this same heat is then being dissipated to the air.

Since this heat can be so quickly carried away from the refrigerant itself, only a very small internal volume in the condenser is necessary.

This would naturally represent a considerable saving, because all heat which is blown into the evaporator must again be pumped out and the volume of gas which is bled out of the condenser must again be replaced at the start of the new cycle, before sufficient pressure can be built up to cause new liquid refrigerant to be condensed.

The equalizer prevents any hot gas from ever entering the evaporator. The equalizer consists of a coil located between the restricting device and the evaporator, and it is placed in the surge chamber which separates out the liquid refrigerant passing completely through the evaporator from the gas leaving the evaporator.

HOT GAS CONDENSED

When the hot gas (which cannot be condensed in the condenser because the compressor is no longer in operation) passes through the restricting device, it enters the equalizer coil and is condensed by the low temperature liquid refrigerant surrounding the equalizer coil. It then passes into the evaporator in the liquid state.

In being condensed in the equalizer, it gives up its heat to the liquid refrigerant which surrounds it, and since this surge chamber is connected between the evaporator and the suction line to the compressor, the gas formed in the surge chamber in condensing the gas in the equalizer is communicated directly to the suction line.

Therefore, the heat contained in any gas passing through the restricting device is thermally bypassed directly to the suction line. Thus it does not have to pass completely through the evaporator, and then to the suction line, in this way decreasing the effective evaporator surface and blowing ahead of it a good portion of the liquid refrigerant which would otherwise remain in the evaporator to be used during the off cycle to absorb heat from the cabinet, thus decreasing the off cycle.

If at any time, due to a sudden load, any uncondensed refrigerant passes through the restricting device, it is condensed before entering the evaporator, and its heat is bypassed directly to the suction gas going to the compressor.

Bonding the restricting device to the suction line does not satisfactorily perform the above described heat bypassing operation, because only relatively dry gas is passing through the suction line, while the equalizer coil is submerged in low pressure liquid refrigerant.

'OFF' CYCLE OPERATION

During the off cycle, after the pressure in the condenser has been equalized with that in the evaporator, the pressure in the equalizer coil is identical with the pressure in the surge chamber surrounding it. The laws of thermo-dynamics state that for any given pressure a liquid will evaporate at only one temperature. The pressure in the equalizer coil, since it is connected to the entrance to the evaporator, is always equal to the pressure in the surge chamber, which is connected to the other end of the evaporator.

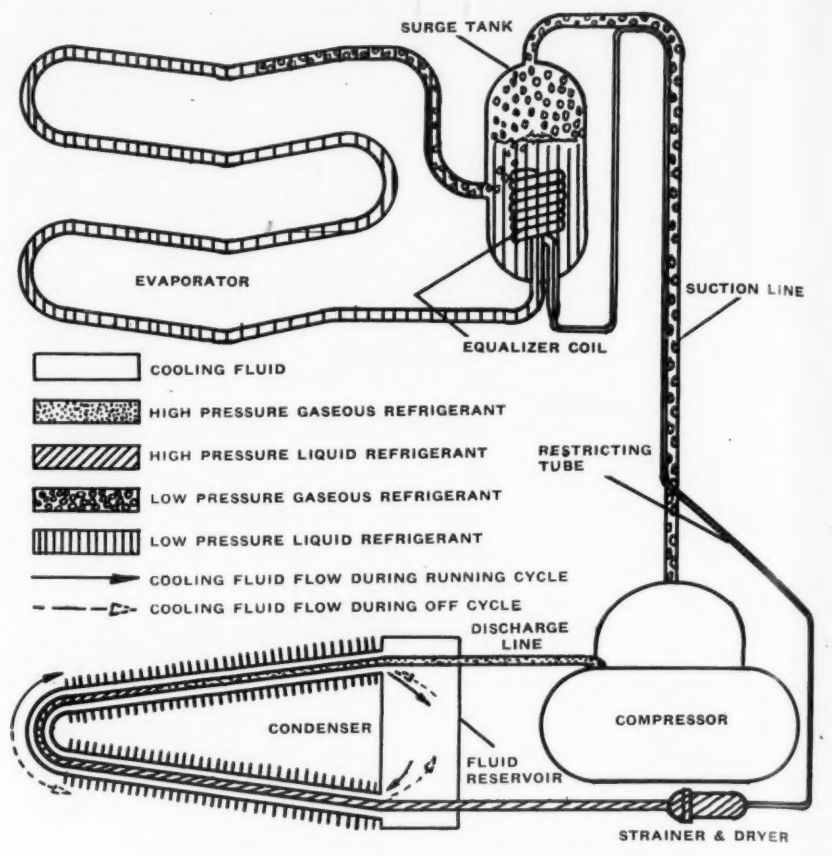
Therefore, the evaporating temperature of the liquid refrigerant in the equalizer is always equal to the evaporating temperature of that in the surge chamber, during the off cycle. This means that the liquid contained in the equalizer coil cannot be evaporated off during the off cycle, because it is impossible to raise the temperature of the liquid surrounding the equalizer coil above the evaporating point of the liquid contained in the equalizer coil.

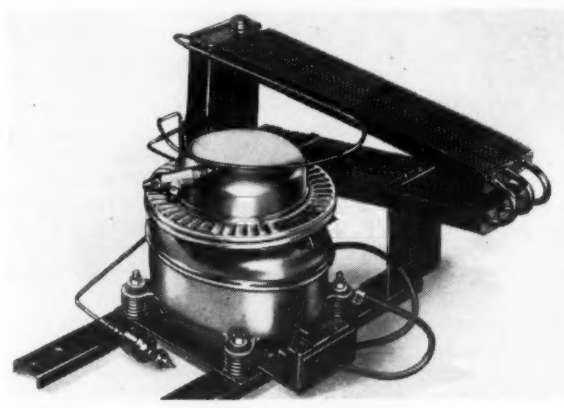
Any increase in temperature in the surrounding liquid would create an increased pressure, which would be transmitted through the evaporator to the equalizer coil, causing the temperature at which it would evaporate to be raised to that of the surrounding liquid.

Since this liquid cannot evaporate during the off cycle, it is obvious that it is ready to enter the evapo-

(Concluded on Page 13)

How 'Fluid-Cooled' System Operates





Operating cycle of the Gale system using the new "fluid-cooled" static condenser is shown in the drawing above. At left, the condenser as it appears in use.

"There's that man again!"

YES, there's that man again—the Bundy sales engineer. And of course the red cap knows him, for he, like all the Bundy sales engineering staff, keeps rails and airways hot helping manufacturers with their tubing problems.

For Bundy tubing is ordinarily sold—not just as tubing, but as a complete, fabricated part—bent, flattened or coiled, upset or swaged—all ready to assemble into a finished product.

Hydraulic fluid lines for automobile brakes! Arms for electric lamps! Even tiny spacers hidden inside machinery! Bundy tubing serves a score of different industries, and our engineers are constantly developing important new uses in new fields—frequently for purposes where tubing has not heretofore been used.

If you now use tubing in your manufactured product (in sizes in or near Bundy's range)—or if tubing plays a part in your plans for new models or new products—why not lay the whole responsibility for this part of your product design right in Bundy's lap? Manufacturers whose volume totals millions of units each year, have found that it pays. To get this cooperation, just drop a line to Bundy Tubing Company, Detroit.

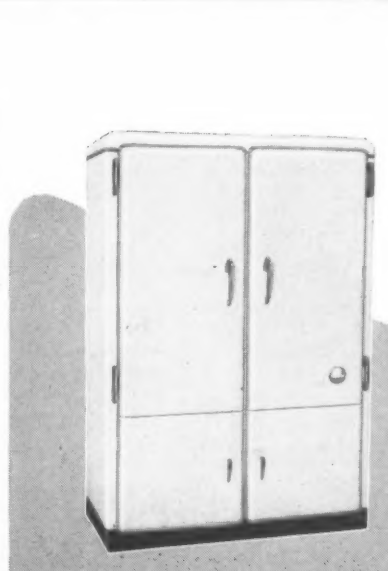
BUNDY TUBING

ENGINEERED TO YOUR EXPECTATIONS

BUNDYWELD patented double-walled steel tubing, hydrogen-brazed, copper-coated inside and outside. From Capillary sizes up to ¼" O.D. This double-walled type is available also in steel, tin-coated outside, and in Monel.

BUNDY ELECTRIC WELD steel tubing. Single-walled—butt welded—annealed. Furnished tin-coated outside if desired. Sizes up to and including ⅝" O.D.

BUNDY "TRIPLE-PURPOSE" MONEL tubing. Double-walled, rolled from two strips, joints opposite, welded into a solid wall. Available in all Monel, Monel inside—steel outside, and Monel outside—steel inside. Sizes up to and including ⅜" O.D.



12 TO 71 CU. FT.

MOST COMPLETE 'REACH-IN' LINE ON THE MARKET!

Here's the widest selection of sizes and styles the industry affords—a model for every need. Distinguished by superb styling, fine construction and outstanding value.

Model 120 (above) has 12 cu. ft. capacity—the newest member of the "Midwest 'Reach-in'" family.

Model 700 (right) another new model has 71.5 cu. ft. capacity. In between is a full range of sizes and equipment. Write for full details now.

★ ★

Midwest MFG. COMPANY
Galesburg, Ill., U.S.A.
Export Division, Merchandise Mart, Chicago

'Fluid-Cooled' Condenser Operation Explained

(Concluded from Page 12, Column 5)

rator immediately upon the start of the new cycle. This means that at the start of each new cycle, instead of a high volume of gas being blown into the evaporator, liquid refrigerant enters the evaporator, replacing that gaseous refrigerant which is being removed from the evaporator by the compressor, causing the evaporator to immediately commence absorbing heat from the cabinet, and maintaining a high operating suction pressure during the first part of the cycle, which permits the compressor to run much more efficiently.

Since during the running cycle of the compressor there is always a certain degree of pressure drop across the evaporator, the temperature of the liquid refrigerant in the surge chamber and in the last portions of the evaporator is lower than the temperature of that in the first portion. In the equalizer system this lower temperature liquid supercools the liquid in the equalizer coil, causing the first portion of the evaporator to operate at a temperature equivalent to that of the last portion.

EVAPORATOR OPERATION

In the system with the equalizer, the last portion of the evaporator is operated more completely filled, because additional liquid refrigerant can be splashed into the surge chamber, since it will be used in conditioning the refrigerant in the equalizer coil.

This does not represent a loss, because its refrigerating ability is transmitted (by supercooling the refrigerant in the equalizer coil) to that refrigerant entering the evaporator, so that in effect the evaporator can operate more completely filled with liquid refrigerant. This causes it to operate more efficiently.

In the equalizer system, the suction gas leaving the evaporator passes over the equalizer coil, which during these conditions is the part of the system where the first expansion takes place. The result is that the higher super heat of the suction gas is removed, and the restricting device is kept cool, permitting liquid to pass through it without the high head pressure that is required when it is heated up.

Since a certain amount of heat is picked up in this equalizer coil, less heat will be picked up from the evaporator surface. This in effect reduces the evaporator capacity to that which the unit can handle. Then as rapidly as refrigeration is not needed at the suction side of the evaporator, this refrigerating capacity goes on into the evaporator and adds to the effective surface, which no longer will cause an increased load, because the temperature surrounding the evaporator is down to designed conditions.

Since extremely high loads are not encountered during the pull down, a compressor motor having a horsepower rating equivalent to the normal cycling load condition may be used in place of a larger motor which would be required for this pull down condition only and then would operate at far below the rated capacity. Since the electric motor operates at maximum efficiency during full load conditions, the equalizer system provides an increase in running efficiency.

Too Long & Too Many Starts or High Voltage Injure Motor Capacitor

NEW BEDFORD, Mass.—To safeguard users against premature motor-capacitor breakdowns, Aerovox Corp. is now placing a "caution" label on its units. Pointing out that proper application is essential, the label reads:

"Failure of centrifugal switch or relay to disconnect or kick off within rated three second's starting time will cause capacitor to break down. Because if excessive time voltage is applied, electrolytic capacitors cannot withstand starting periods exceeding three seconds, nor voltage exceeding 138.

"Increased starting time may be due to failure of centrifugal switch or relay to disconnect capacitor from line. This may be caused by (1) mechanical failure of switch; or (2) excessive load on motor because of sticky compressor or perhaps dry motor bearings."

Another cause for failure, the label explains, is improper adjustment of thermostat or refrigerator valves, causing too frequent starting of motor. Electrolytic capacitors cannot be used for more than 20 start-stops an hour.

The capacitor should not be applied, warns the label, without first checking (1) the centrifugal switch, (2) easy turning of motor and compressor, and (3) the thermostat and valves.

A-P Defrost Valve Provides Humidity Control in Fixture

MILWAUKEE—A new defrosting valve for the control of both temperature and humidity has been introduced by Automatic Products Co. This new device maintains any desired temperature in the fixture, and also gives a complete defrosting of the coil during the off-cycle, without the use of solenoid valve or other electrical device, it is said.

Incidental to its operation is the maintaining of a constant humidity, because when the coil is freed of ice on each off-cycle, the moisture originally within the fixture is returned. Because the valve is non-electrical, installation expense also is lower, it is said.

The valve has two operating bellows, one of which has its capillary attached directly to the coil. When the coil becomes completely defrosted, the coil temperature causes the bellows to operate a snap-action lever which allows high pressure gas or liquid to actuate a bellows and pilot valve. This in turn opens the main valve, permitting refrigerant to flow through the coil, again putting it in operation after an off-cycle.

The valve now remains open until the fixture temperature drops to a point predetermined by the setting of the control knob on the valve case. At this point, the box temperature bellows is actuated through its capillary tube. A catch is released, allowing the snap-action lever to close the pilot valve. This shuts off the high pressure liquid or gas, permitting pressure to bleed out of the valve operating bellows, causing the spring to close the main valve port.

Flow of refrigerant from the coil is stopped. Coil temperature begins to rise, and ice formed on the coil begins to melt, effecting a complete defrosting of the coil.

The valve is easy to operate and to install, it is claimed. Defrosting adjustment is made at the time of installation, and no changes are required, regardless of changes made in box temperature adjustment. Knob adjustment permits these to range between 36° and 46°, with 40° as the normal setting.

To install, the box temperature capillary is placed in the fixture at any point from which it will best control fixture at the temperature desired, and the defrosting capillary is clamped to the coil, preferably at the point where the greatest amount of ice forms, so as to secure complete defrosting on the off-cycle.

Extra Dividend Authorized By Parker Rust Proof Co.

DETROIT—Parker Rust Proof Co. has authorized an extra dividend of 25 cents a common share in addition to the regular quarterly dividend of 25 cents, payable March 1 to stockholders of record Feb. 15. An extra dividend of 50 cents was paid last November and two extras of 25 cents each were paid earlier in 1940.

Snap-On Tools Co. Answers Charge of 'Lottery' By FTC

WASHINGTON, D. C.—Snap-On Tools Corp., Kenosha, Wis., manufacturer of tools, is charged with the use of lottery methods in the sale and distribution of its products in a complaint issued by Federal Trade Commission.

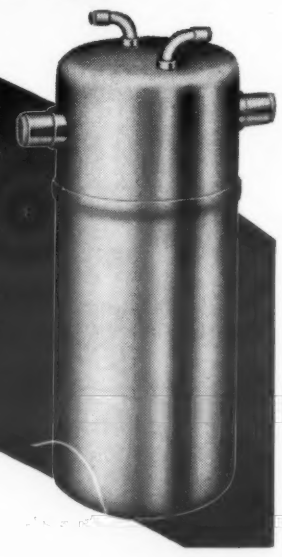
In the conduct of its business, the complaint charges, the company has sold its merchandise to members of the public in accordance with a sales plan involving a game of chance, gift enterprise, or lottery scheme, and has supplied the managers of its branch offices with sales posters and circular letters outlining the sales plans or methods by which its merchandise was to be and has been sold and distributed to the public.

In an answer to the FTC complaint, Snap-On Tools asserts that all the acts noted in the complaint were confined to intrastate rather than interstate transactions, and therefore, are not subject to the provisions of the FTC Act.

The answer states that branch offices are operated by branch managers who operate each branch as their own business, and in their own way, pay their own rent, employ their own personnel, and purchase tools from the respondent on a basis involving outright purchases and sales, and that the managers in effect operate under the same conditions as independent jobbers.

TEMPRITE

ANNOUNCES THE NEW ACCUMULATOR-INTERCHANGER



THE TEMPRITE ACCUMULATOR-INTERCHANGER IS DIFFERENT!

- It starts to work instantly with the compressor and, therefore, protects against starting spill-over which takes place before the ordinary exchanger warms up.
- It carries on where the ordinary exchanger leaves off because it also absorbs the surges which usually pass on to the compressor.
- It has negligible suction pressure drop.
- It is the exclusive combination of Accumulator, Turbulator Tube and Heat Exchanger which makes this type of performance possible.
- Of Copper Hydrogen Furnace Weld throughout, the Accumulator-Interchanger is clean, leak-proof and sturdy and, of course, it has the traditional Temprite efficiency.

Offered in three sizes of 1½, 3 and 6 Ton Capacity, respectively. For details and specifications, write your jobber for Temprite Form J-28

or write

TEMPRITE PRODUCTS CORPORATION

Originators of Instantaneous TEMPRITE INSTANTANEOUS *Liquid Cooling Devices*

55 PIQUETTE AVE. DETROIT, MICHIGAN

★ ★ ★ ★ ★ ★ ★ ★ ★

MILLS MIGHTY REFRIGERATION

Mills Condensing Units
By Mills Novelty Company
4100 Fullerton Ave., Chicago, Ill.

★ ★ ★ ★ ★ ★ ★ ★ ★

Tecumseh Net Profit Is $152,321

TECUMSEH, Mich. — Tecumseh Products Co. for the year ended Dec. 31 reports a net profit of $152,321 after depreciation, interest, federal income taxes, etc., equal to $1.01 a share on 150,000 shares of common stock. This compares with a net profit for 1939 of $114,935, or 77 cents a share.

Current assets as of Dec. 31 totaled $859,046, including $129,861 cash, and current liabilities were $650,510, compared with current assets of $425,430, cash of $32,364, and current liabilities of $217,988 a year ago. Inventories were $384,702, against $210,091 in 1939.

Net sales last year set a new record at $3,929,090, as compared with $2,273,338 in 1939.

Fig. 23 - - Parts of the 'All-In-One' Freezer

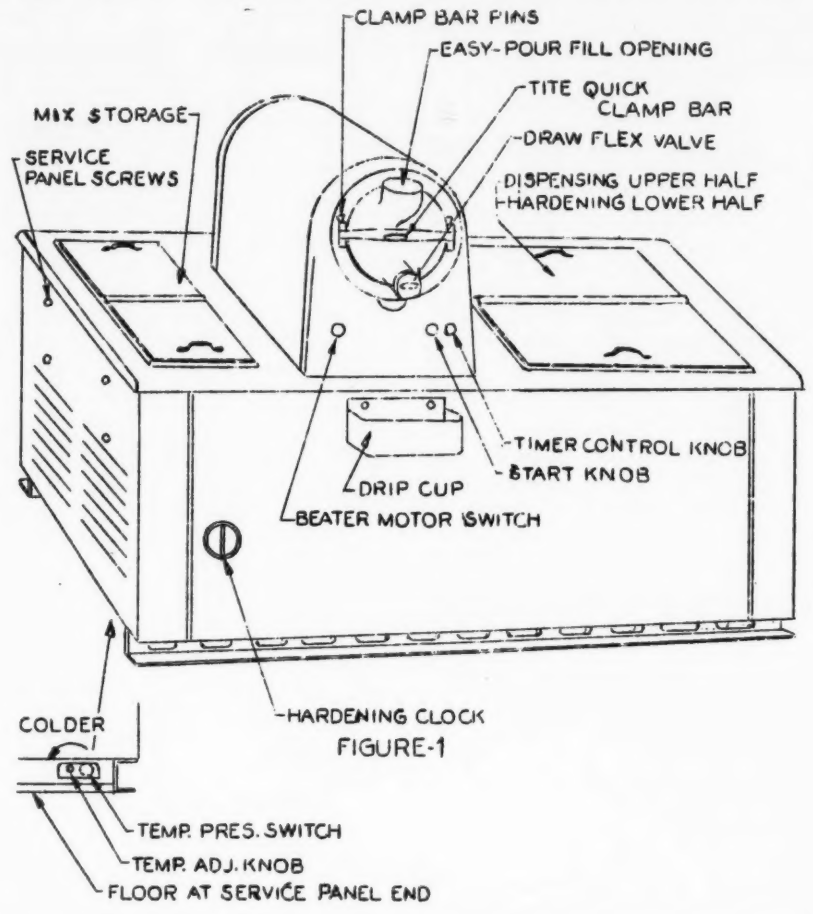
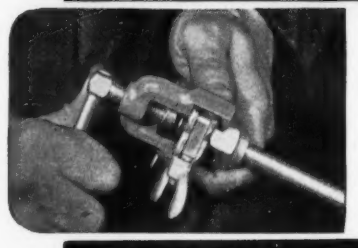


FIGURE-1

for the number of hours for which it is set (see operating instructions).

The hand on the clock may be set forward or backward at any time and always indicates the number of hours running time remaining before the clock returns control to the temperature pressure switch.

You can SPEED UP your flaring!



● The new Imperial Flaring Tool with slip-on yoke, provides ease and speed of operation never before attained in a flaring tool.

The yoke is made so that it can be slipped on over the bar without twisting or turning. The inside edges of the yoke are slotted so that once in position a slight turn holds it in place on the bar. Yokes are made of forged steel.

An additional advantage of this tool is the construction of the bottom of the yoke, which permits flares to be made where there is little space between nut and the end of tubing. Fin tubing sometimes offers this problem.

Flares soft copper, brass or aluminum tubing.

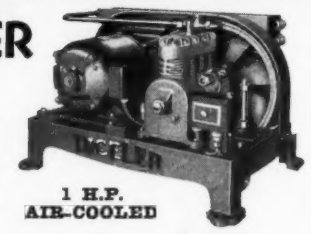
No. 195-F Imperial Flaring Tool, flares ¼", 5/16", 3/8", ½" and 5/8" O. D. tubing. Price each.....$4.25

Also available for all other sizes of tubing.

THE IMPERIAL BRASS MFG. CO., 565 S. Racine Ave., Chicago, Ill.

IMPERIAL VALVES • FITTINGS • TOOLS CHARGING LINES • FLOATS STRAINERS • DEHYDRATORS ORDER FROM YOUR JOBBER

DICELER CONDENSING 4 CYLINDER UNITS



1 H.P. AIR-COOLED

For Design, Construction and Service the most is offered by DICELER. You'll find it worth your while to get all the facts about DICELER compressors in both air and water cooled models from ⅙ H.P. to 30 H.P. Write for the DICELER catalogue and learn how you can gain greater sales and increased profits.

THE CONDENSING UNIT LINE WITH EXCLUSIVE FEATURES

DEISSLER MACHINE COMPANY Greenville, Pa.

PIONEER OF FOUR CYLINDER REFRIGERATION

Fan Blades and Blower Wheels by TORRINGTON

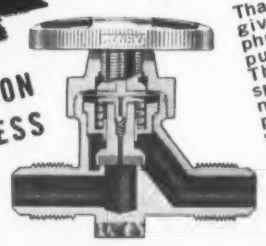
THE TORRINGTON MANUFACTURING CO. of TORRINGTON, CONNECTICUT

HENRY

LONG AND "Carefree" LIFE

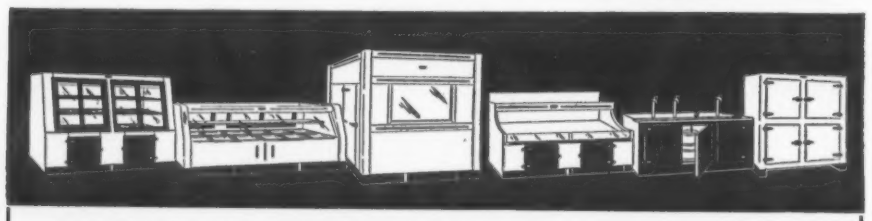
That's what Henry's new design gives to packless valve diaphragms. Henry diaphragms are puncture and fracture-proof. They also have a light gentle spring to push them up and a non-rotating bearing plate to push them down. Wear and strain are reduced.

RECOMMENDED AND SOLD BY LEADING JOBBERS



BALANCED-ACTION DIAPHRAGM PACKLESS VALVES

HENRY VALVE CO. 1001-19 N. SPAULDING AVE. CHICAGO, ILL.



"TOPS" IN QUALITY, VARIETY AND PROFIT

MAKING MONEY AND FRIENDS FOR HUNDREDS OF DEALERS EVERYWHERE
A REAL DEALER PROPOSITION . . . INQUIRE TODAY

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BIGGER PROFITS WITH THE COMPLETE* TYLER LINE....

★ With more money in circulation, stores, restaurants, hotels, bars, taverns,—all need new equipment to get their share of EXTRA BUSINESS. The complete Tyler line meets every need—offers extra value, extra savings. Write TYLER FIXTURE CORPORATION, DEPT. R-2, NILES, MICHIGAN

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*TYLER WELDED STEEL REFRIGERATED DISPLAY CASES, REACH-IN BOXES, SECTIONAL STEEL CLAD WALK-IN COOLERS, DRY-KOLD BEVERAGE COOLERS, BEER DISPENSERS

Operating and Service Methods For Dry-Expansion Counter Freezers

By Arch Black and Dean C. Seitz

Editor's Note: This is one of a series of articles on the servicing of counter-type ice cream freezers, which have been appearing in the issues of AIR CONDITIONING & REFRIGERATION NEWS in the past few months.

It will form one section of a general series on the servicing of low temperature equipment in common use by the retailer.

Taylor 'All-In-One' Freezer

The Taylor Model 640R "all in one" freezer is similar to the Taylor "Freez-Master" in the respect that a 6-quart horizontal freezer is in the assembly and the same type timer control as has been explained for the "Freez-Master" is used. The "all in one", however, is more complete in the respect that provision has been made for hardening and dispensing of ice cream.

In short, the "all in one" freezer is more or less a complete ice cream plant consisting of (a) 6-quart horizontal freezer for freezing and dispensing frozen products; (b) a cabinet with space for hardening 20 gals., dispensing 20 gals., and storage of 9 gals. of unfrozen mix; (c) a ½-hp. air-cooled condensing unit.

REFRIGERANT CIRCUIT

Fig. 23 outlines the different sections and items that make up the complete "all in one" freezer.

From Fig. 24 it will be noted that there are two expansion valves, an automatic expansion valve connected to the freezer and a thermostatic expansion valve connected to the cabinet coil.

The cabinet is refrigerated by a continuous coil which passes through the back of the mix compartment. The thermostatic expansion valve bulb is located in the well of the coil in the mix compartment (see Fig. 24). Temperature of the mix compartment may be changed by adjusting thermostatic expansion valve. Opening the valve slightly will reduce the temperature.

This "all in one" freezer system differs from the Taylor "Freez-Matic" in that there is only one solenoid. The freezer solenoid valve is operated by a timer which is exactly the same as has been described for the "Freez-Matic." (See AIR CONDITIONING & REFRIGERATION NEWS, Jan. 22 issue and Jan. 29 issue for complete information on the operation of the timer.)

The condensing unit has two controls, the temperature pressure switch and the hardening clock. The pressure element of the temperature pressure switch operates on suction pressure and starts the condensing unit whenever the solenoid valve opens, admitting the refrigerant to the freezer.

Temperature bulb of the temperature pressure switch is located in the dispensing section of the cabinet as can be noted in Fig. 24 and controls cabinet temperature, except when the hardening clock is operating. This hardening clock operates the condensing unit continuously

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MARLO COIL COMPANY
SAINT LOUIS, MISSOURI

MUELLER BRASS CO.
Port Huron, Mich.
TRIPLE SEAL DIAPHRAGM VALVE
Longer Diaphragm Life
Positive Sealing at Three Essential Points

PUT POWER IN YOUR SEALS
★
ROTARY SEAL UNITS
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TRADE MARK

ASE Froz-n-Food Lockers

Provide Extra Profits
Sure Repeat Orders
Sold Only Through Dealers

ALL-STEEL-EQUIP COMPANY, INC.
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Dealers Wanted for Midwestern and Southern States

CAMPBELL REFRIGERATOR CO.
Milwaukee, Wis.

ACME INDUSTRIES, INC.
JACKSON MICHIGAN
EVAPORATIVE AMMONIA
FREON CONDENSERS

Tested Approved

A spacious new walk-in cooler that operates at a lower cost than was ever before thought possible. Every day a Koch Econ-O-Cooler will cut down overhead and expenses. It has greater capacity, longer life, and more efficient refrigeration.

The Econ-O-Cooler is only one of a number of standard Koch products. There are 108 standard models in the vast Koch line, including display cases, coolers, vegetable cases, and refrigerators for meats, bottled goods, flowers, bakery items, dairy products, etc. There is a Koch product to fill every need.

THE NEW ECON-O-COOLER

There are more than 3500 sales representatives who profitably sell the Koch line. Yet many attractive territories are still open to aggressive sales organizations. Write today for full particulars and prices.

KOCH REFRIGERATORS
NORTH KANSAS CITY, MO.

TIE UP WITH US FOR REFRIGERATION AND AIR CONDITIONING PARTS AND SUPPLIES!

WRITE FOR LATEST CATALOG ON YOUR LETTERHEAD. WHOLESALE ONLY

THE HARRY ALTER CO.
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3 CHICAGO BRANCHES, NORTH, WEST, SOUTH
NEW YORK PHILADELPHIA BRONX JAMAICA
NEWARK DETROIT CLEVELAND ST. LOUIS

Westinghouse Building New Atlanta Offices

ATLANTA—General contract for construction of a new headquarters building here has been let by Westinghouse Electric & Mfg. Co. to Rust Engineering Co., Birmingham, Ala.

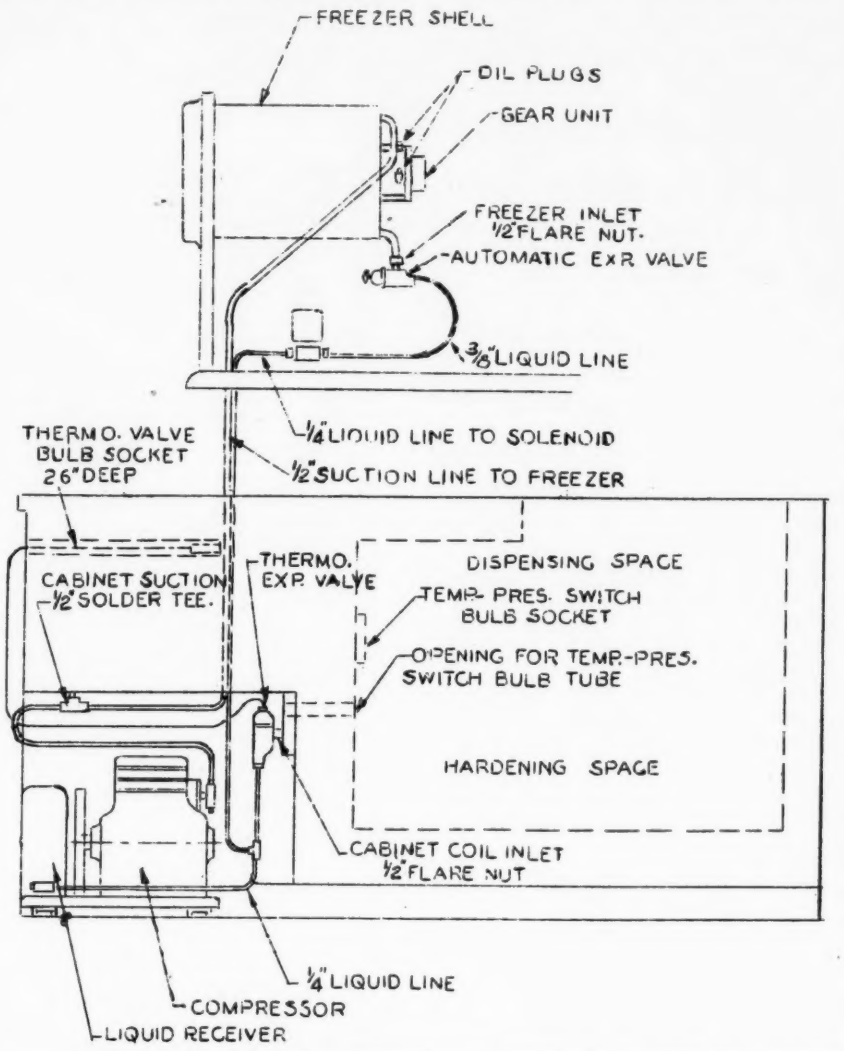
The 6-acre building site is about two miles from the center of Atlanta. Rough grading has been completed, and structural steel work is expected to start in March.

In addition to a service plant, the headquarters building will include district sales offices, and warehouse, display rooms and offices of Westinghouse Electric Supply Co., and the company's lamp, X-ray, and merchandising divisions. New equipment in the service plant will make it possible to service large motors and transformers as well as to assemble switchboards and industrial control apparatus.

Designed by Roberts & Co., Atlanta architects, the building will have three different levels.

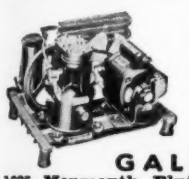
Glass blocks will be used in place of windows in the main office section, and the air will be conditioned and cleaned by Precipitrons. Special fluorescent lighting will be installed.

Fig. 24 - - Refrigeration Hookup For 'All-In-One'



ALCO *Specify* ALCO for Maximum Efficiency, Trouble-Free Performance
ALCO VALVE CO. ST. LOUIS, MO.

For Information on Motors FOR ALL TYPES OF Air Conditioning and Refrigeration Equipment WRITE TO
Wagner Electric Corporation
6441 PLYMOUTH AVE ST. LOUIS, MO.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CONDENSING UNITS
Precision built for efficient operation.
GALE PRODUCTS
1635 Monmouth Blvd. Galesburg, Ill.

VIBRATION PROOF! ALL METAL!
AIR-MAZE
Permanent Air-Filter Panels
AIR-MAZE CORP., CLEVELAND, OHIO

CHARGED DAVISON'S IN SILICA GEL WITH Specify DRYERS THAT BEAR THIS LABEL
Ask your Jobber

COMPLETE LINE
of White-Rodgers Refrigeration Controls will solve your refrigeration and air conditioning problems. Write for condensed catalog.
White-Rodgers Electric Co.
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Ready, Willing, Able
TRAINED MEN
Available!
It's easy to get the right man for your job without trouble, expense or delay. Use the U.E.I. Free Placement Bureau. National service. For over 13 years U.E.I. graduates have made better employees for all positions requiring technical knowledge or mechanical ability. We have the man you want. Phone, write or wire us.
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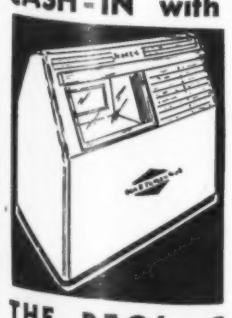
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QUICK FROZEN FOOD DISPLAYERS
Write for exclusive Distributor-Dealer proposition.
THE REOL COMPANY
Hearst Tower Bldg. Baltimore, Md.

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RATES: Fifty words or less in 6-point light-face type only, one insertion, $2.00, additional words, four cents each. Three consecutive insertions, $5.00, additional words ten cents each.

PAYMENT in advance is required for advertising in this column.

REPLIES to advertisements with Box No. should be addressed to Air Conditioning & Refrigeration News, 5229 Cass Ave., Detroit, Mich.

POSITIONS AVAILABLE

MECHANICAL Draftsmen with layout experience on household refrigerators. Permanent, attractive offer to qualified men. Give complete experience, age, salary expected, etc. in first letter. Our employees know of this "ad." Box 1307, Air Conditioning & Refrigeration News.

WE HAVE an opening for an energetic salesman to sell refrigerator hardware to commercial manufacturer & store fixture builder. Box 1310, Air Conditioning & Refrigeration News.

LARGE Centralwest manufacturer wants man experienced in combustion engineering and space heating development. Also needs one draftsman and one sheet metal worker. Give complete experience and salary in first letter. All replies confidential. Reply Box 1311, Air Conditioning & Refrigeration News.

FIELD MAN to promote already established line of display cases, coolers, beer equipment, commercial refrigerators of all types, in Mid-Western area. Well rated manufacturer, in business many years. Salary and commission for right man. Must be alert, energetic, with good past record with former employers. Knowledge of refrigeration helpful but not essential. State age, education, past record, salary expected, in first reply. All replies confidential. Box 1312, Air Conditioning & Refrigeration News.

ARE YOU THE MAN? We want to contact a man used to substantial earnings. He is a persistent, enthusiastic worker. Has selling ability and established contacts with refrigeration and refrigerating equipment dealers and wholesalers in his territory. To such a man we offer a part or full time connection as Manufacturer's Representative (exclusive territory). Earning possibilities limited only by the man's energy and ability. For details write THE REOL CO., Hearst Tower Bldg., Baltimore, Md.

FRANCHISES AVAILABLE

DIRECT FACTORY Connection—Sell Refrigerator Display Cases, Walk-In Coolers, Reach-In Refrigerators, Refrigerating Units, to Meat Markets, Grocers, Taverns, etc. Financing arrangements to help sell. Write for full information, or see EHRLICH REFRIGERATOR MFG. CO., St. Joseph, Mo., Dept. A.

BUSINESS OPPORTUNITIES

FOR SALE—Jobbing business established with own building and living quarters. Also extra rental. Only small overhead and low inventory necessary. Reason ill health. Do not answer unless prepared financially. Box 1286, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

ATTENTION refrigeration service repair companies—Phenomenal price reduction on brand new stainless steel domestic controls. For further information inquire by mail to JAMES SURPLUS PARTS, 211 E. 149th St., Bronx, N. Y.

REPAIR SERVICE

CONTROL REPAIR Service. Domestic controls reconditioned equal to new at a small cost. All work guaranteed for one year. Prices upon request. UNITED SPEEDOMETER REPAIR CO., INC., 342 West 70th Street, New York City.

CONTROL REPAIR service. Your controls repaired by expert mechanics, with special precision equipment. Supervised by graduate engineers. We stress perfection and dependability before price. One year guarantee on domestic controls. Any bellows operated device repaired. HALECTRIC LABORATORY, 1793 Lakeview Road, Cleveland, Ohio.

HERMETIC REBUILDING and Exchange Service General Electric—Westinghouse—Majestic and Grunow Units, Compressors and parts. Immediate shipment. Old unit can be returned later in our crate. We also exchange floats, Evaporators, Controls. Write for price list specify S6. SERVICE PARTS CO., 1101-03 N. 24th Ave., Melrose Park, Ill.

GENERAL ELECTRIC monitor top metallic bellows repaired. Thermostats for G. E. units type DR1A, DR1B, DR2F & D2. No others. Exchange basis only. Any quantity. Send your old bellows and receive by return mail completely rebuilt bellows guaranteed for one year. $1.00 postpaid. Instructions for installing. G. E. MONTAGUE, 113-11 200th St., St. Albans, N. Y.

MANUFACTURERS, Distributors—Attention: Our services available in New York, New Jersey, Connecticut. Specializing in installation and maintenance of low temperature applications including freezers, hardening rooms and cabinets, frosted food cabinets, and all related equipment. A reliable, capable, prompt-acting firm. J. M. WEINBERGER & CO., 32 Culver St., Yonkers, N. Y.

SAVE YOUR Trade-Ins—General Electric, Grunow, Westinghouse, Crosley, Servel, Gibson, Bohn Hermetic, etc. Complete Renovating Service, Respraying. Use our Ovens for Dehydrating. Compressors Rebuilt or Exchanged. Controls, Parts (The Hard ones to get). REFRIGERATOR SERVICE CORP., Minneapolis, Minn. Write for circular.

PATENTS

HAVE YOUR patent work done by a specialist. I have had more than 25 years' experience in refrigeration engineering. Prompt searches and reports. Reasonable fees. H. R. VAN DEVENTER (ASRE), Patent Attorney, 342 Madison Avenue, New York City.

THE BUYER'S GUIDE

Sherer 1st FOR VALUE FOR SALES FOR PROFIT

• Just as the Vegetaire (*exclusive with Sherer*) builds profits in the produce department, so will it build sales and profits for you. . . . . And the Vegetaire is only one item in a complete line of Sherer refrigerator display and storage equipment! Write for franchise details.

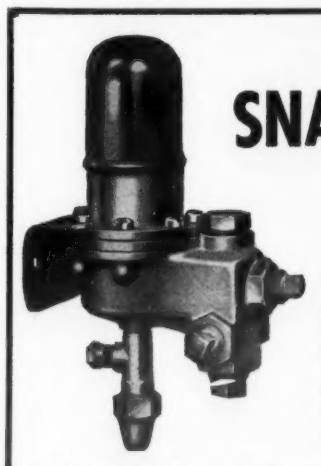
Sherer-Gillett Co., MARSHALL, MICH.

All Chieftain hermetic units are sealed completely and properly dehydrated, tested and assembled in our filtered rooms.
TECUMSEH PRODUCTS CO.
TECUMSEH, MICH.

Only POLARTRON Offers Truly Independent Adjustment

This exclusive MINNEAPOLIS-HONEYWELL feature enables you to change either the ON or OFF pressure without effecting the other

MINNEAPOLIS-HONEYWELL
MINNEAPOLIS-HONEYWELL REGULATOR COMPANY
2857 FOURTH AVENUE SOUTH, MINNEAPOLIS, MINNESOTA
REFRIGERATION Control



TWO TEMPERATURE
SNAP-ACTION VALVE
by Aminco

A marvelous precision valve designed for systems with more than one coil, operated from the same compressor. Any variety of units such as ice cream cabinets, soda fountains, back bars, water coolers, candy counters, beer coils, storage rooms, etc., may be connected to a single compressor unit by the use of Aminco Two Temperature Valve.

Adjustable from 20" of vacuum to 63 pounds pressure. Differential 7 lbs. min. to 29 lbs. max. May be used with any refrigerant except ammonia. For flooded as well as dry gas types or any combination of either. Free from bellows strain.

Send for Bulletin No. 17

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1481 Fourteenth Avenue DETROIT, MICHIGAN
Pacific Coast: Van D. Clothier, 1015 E. 16th, Los Angeles, Calif.
Export: Borg-Warner International Corp., 310 S. Michigan Ave., Chicago, Ill.

More Than 5½ Million Ranco Controls are in use

Ranco INC. COLUMBUS, OHIO, U.S.A.

Westinghouse Will Push 'Package' Units Through All Outlets

(Concluded from Page 1, Column 2)

The new sales plan was presented to the company's Michigan dealers by H. F. Hildreth, manager of Westinghouse home heating and air conditioning sales, and W. R. Mason, advertising manager for the same department. The miniature stage used in making the presentation was designed under the supervision of Gil Baird of the company's merchandising division.

In introducing the sales plan, Mr. Mason pointed out that summer air conditioning was becoming of increased importance, although it had not "swept the country" as was once expected by many people in the industry. During the introductory period many heating dealers decided to "sit this one out," but according to Mr. Mason, this attitude is changing rapidly at the present time. Two reasons for this new outlook on the part of the residential heating people were cited by Mr. Mason: first, that summer air conditioning is reaching into the smaller cities and towns; and secondly, that it has become a profitable business in many quarters.

In making the Westinghouse packaged line available to the heating industry, Mr. Mason pointed out that all design engineering, refrigerant connections, and balancing of the system is done at the factory. Application of the units to all types of establishments requires a minimum of field engineering, which has been simplified by means of the Westinghouse "Select-O-Guide."

Another purpose in making the cooling line available to heating dealers is the fact that the "peak" selling season in heating is October, and the "peak" cooling season is May of each year.

Mr. Hildreth presented the "10-Up" selling plan which will be used in the promotion of air conditioning prospects this year. Dealers are supplied with blanks to be filled in with the names and addresses of 10 prospects. These are returned to headquarters and used as a mailing list for direct mail material.

Newest addition to the Westinghouse line of home heating equipment is a gas-fired forced air heating system equipped with a built-in Precipitron electrostatic air cleaner. New "specialties" in the line include a ceramic humidifier and a blower-filter unit for conversion use. Balance of the line includes oil, gas, and coal fired warm air systems and boilers in sizes to meet all residential requirements.

G-E Shifts Staff At Bloomfield

(Concluded from Page 1, Column 4)

covers all field activities and the supervision of district managers.

Responsibility for product sales has been segregated into three sections, two of which are new in the department organization. Automatic heating sales section, under L. H. Hobson, formerly a zone manager, will supervise all oil heating and gas heating equipment sales.

Cooling equipment sales section, under C. M. Rowland, also formerly a zone manager, will supervise the sale of water coolers, room coolers, store coolers, refrigerators, air circulators, and ventilators. Contractor and industrial sales section, responsible for the sale of all condensing units, evaporators, evaporative condensers, central plant equipment, etc., remains in charge of S. Martin, Jr.

Harold T. Hulett and A. E. Pierce have relinquished their positions in the department to accept increased responsibilities in other branches of General Electric, it was announced. Frank H. Faust, secretary of the department's management committee, has been appointed commercial engineer.

Courts' Decisions on Hours Law May Affect Distributors

(Concluded from Page 1, Column 3)

rently attempting to assume authority over intrastate production and sales operations.

National Labor Relations Board "moved in" on intrastate sales in January, when the U. S. Supreme Court denied a review of the case of three Rhode Island automobile distributors who contended the board had no jurisdiction over their operations with respect to their employes, because only a very small fraction of their sales activities were in interstate commerce. The board was upheld by a circuit court of appeals in the contention that "it has long been settled that activities which when separately considered are intrastate may become subject to the power of Congress when they have a close and substantial relation to interstate commerce."

Federal Trade Commission is attempting, in a case which was argued before the U. S. Supreme Court in January, to obtain authority to regulate intrastate sales when they "affect" interstate competition. The case involves a Chicago candy company whose intrastate sales practices, FTC contends, are unfair to interstate firms.

In this three-front drive to gain control over intrastate commerce, there was one slight reversal in January. The Tennessee Circuit Court of Appeals ruled that a night watchman in a wholesale warehouse is not "sufficiently essential" to the movement of goods in interstate commerce and therefore is not covered by the Fair Labor Standards Act.

Dealers Fight Law To License Stores

(Concluded from Page 1, Column 5)

It applies to contract payments, which "shall mean any method of payment other than a 30, 60, or 90-day open charge account."

The $500 license fee applies to each store, where more than one store is operated. The bill carries a penalty for violations consisting of a fine of from $1,000 to $2,000, with each extra day's violation constituting a separate offense. The secretary of state would be granted $20,000 to administer the act.

Most objectionable section of the bill, the dealer association declares, is the one reading: "All credit stores shall within 48 hours file an affidavit with the secretary of state showing cost prices of all merchandise newly received and to be offered for sale. All merchandise so reported shall be accompanied by a registration of stock numbers of merchandise. All credit stores engaged in advertising through any recognized advertising medium shall show stock number of merchandise so advertised, and the price at which offered. All merchandise so advertised must be in stock of credit stores so advertising."

Aluminum Priority Memo Issued

(Concluded from Page 1, Column 5)

Washington this week, Assistant Attorney General Thurman Arnold declared that the coming of priorities will place a real burden on manufacturers of such appliances as refrigerators, ranges, washing machines, and the like.

Whether or not this "burden" will result in necessarily higher prices on these appliances is a matter that is now furrowing the brows of some of the industry's leaders. Price changes will surely be resisted as long as possible.

Behind the scenes of this threatened aluminum shortage (which has been hastened by the "cornering" of aluminum scrap by speculators and by legitimate manufacturers for their stock piles) is a terrific battle now going on between the OPM and the aluminum and steel manufacturers.

The OPM wants capacity increased in both lines. The makers of steel and aluminum, unanxious to aggrevate their industries' perennial overcapacity problem during the "after-the-emergency" letdown, are resisting plant enlargements.

Nevertheless, some increase in capacity will undoubtedly come about. Reynolds Metal, for example —a newcomer to aluminum production—will be turning out aluminum ingots at Lister, Ala., in March.

In the meantime, other materials for ice trays may be tapped. Rubber is available now, and other substitutes are being feverishly tested by manufacturers.

Tassie Heads Coast G-E Appliance Sales

(Concluded from Page 1, Column 2)

was announced by Carl M. Snyder, assistant manager of the department.

The new district includes all of the Pacific coast territory, Montana, Idaho, Nevada, Utah, Arizona, and part of South Dakota and Wyoming. G. S. West and R. M. Loughrey, formerly managers of smaller districts that have now been dissolved, have been assigned to Mr. Tassie's staff, from their present headquarters in San Francisco and Portland, respectively.

Mr. Tassie has been president of Manning, Bowman & Co., electrical appliance manufacturer, for the past 10 years. He joined that organization in 1915 as Pacific Coast district manager.

AIR COOLED CONDENSERS
1/6 h. p. to 5 h. p.
KRAMER-TRENTON CO.
TRENTON, N. J.

DEFROSTO UNIT COOLER
Minute Movies
. . . COMPLETELY NEW
. . . FOR BELOW 32
Bush Mfg. Co.
HARTFORD, CONN.
BRANCH FACTORY
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ANSUL Chemical Company, an American business that has grown and progressed in the typical American way, is ready to serve your needs just as it is ready, if necessary, to serve the needs of the Republic. For twenty-five years Ansul has bent every energy to the production of the finest refrigerants possible. We now face our second quarter century resolved that Ansul quality and Ansul service shall not be exceeded.
ANSUL CHEMICAL COMPANY
MARINETTE • WISCONSIN
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Ready to Serve
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THERE IS AN ANSUL JOBBER NEAR YOU

DEPENDABLE
More than 1/3 of the A-P Payroll is Devoted to TESTING
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